

# The Mining Journal.

## RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[The Mining Journal is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.]

No. 2537.—VOL. LIV.

LONDON, SATURDAY, APRIL 5, 1884.

WITH SUPPLEMENT. PRICE SIXPENCE BY POST, 21 4s. PER ANNUM

**M. JAMES H. CROFTS, STOCK AND SHARE DEALER,**  
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.  
ESTABLISHED 1842.

BUSINESS transacted in all descriptions of MINING Stocks and Shares British and Foreign, Consols, Bonds (Foreign and Colonial), Railways, Insurance, Assurance, Telegraph, Tramway, Shipping, Canal, Gas, Water, and Dock Shares, and all Miscellaneous Shares.

Business negotiated in Stocks and Shares not having a general market value.  
Every Friday a general and reliable List issued (a copy of which will be forwarded on application), containing closing prices of the week. **MINES INSPECTED.**  
BANKERS: CITY BANK, LONDON—SOUTH CORNHILL BANK, ST. AUGUSTINE.  
TELEPHONE NUMBER 1003.

**SPECIAL DEALINGS** in the following, or part:—  
50 Asia Minor. 100 Guinea Coast Gold. 20 Panulillo.  
50 Akankoo, fully paid. 20 Great Lacey. 50 Prince of Wales.  
50 ditto, 17s. 6d. paid. 15 Gunnislake (Chitlers). 100 Pectarena.  
50 ditto, 17s. 6d. paid. 250 Hawk's Hill. 20 Rio Tinto.  
100 Almaden. 50 Hingham Down. 25 Ruby.  
50 Bedford United. 200 Hoover Hill. 25 Rhodes Reef.  
50 Bratsberg. 80 Home Mines Trust. 25 Richmond.  
50 Bwch United. 100 Hony & Treasny. 30 Roman Gravel.  
50 Cankim Bamoo. 100 Indian Consolidated. 20 South Caradon.  
50 Carn Camborne. 100 Indian Glenbrook. 25 South Condurow.  
50 Callao Bis. 85 Javali. 50 South Darren.  
50 Chile Gold. 25 Kapanga. 50 South East Wynad.  
150 Colombian Hydraulic. 50 Killifreth. 50 South Devon United.  
50 Consolidated. 75 La Plata (New). 300 Sortridge (off wtd.).  
50 Californian. 65 East Chance. 50 South Penstruthal.  
50 Colorado. 100 Leadhills. 50 Tambracherry.  
40 Canada Copper. 150 Lisbon-Berlyn. 50 Tanker. Gt. Consols.  
100 Chontales. 55 Marke Valley. 10 Tolima A.  
100 Cor. So. Austr. Cop. 25 Michipicooten. 20 ditto B.  
150 Denver. 20 Mons. 50 Trevaunance.  
100 Devana Moyer. 100 Mounts Bay. 20 United Mexican.  
20 Devon Consols. 50 Mysore Gold. 50 Victoria Gold.  
150 Devon Friendship. 75 New Caradon. 25 Van.  
50 Devon United. 50 New Callao. 20 Wheel Agar.  
10 Dolcoath. 50 New Emma. 15 Wheel Basset.  
50 Don Pedro. 25 New Quebrada. 25 West Callao.  
50 Drakeville. 300 North Blue Hills. 50 West Phoenix.  
200 Duchy Peru. 20 New Kitty. 100 West Caradon.  
50 Eberhard. 100 Nouveau Monde. 100 West Orebor.  
50 East Caradon. 50 North Penstruthal. 100 West Polbreon.  
50 East Craven Moor. 25 New West Caradon. 20 West Kitty.  
50 East Lovell. 100 Old Shepherds. 25 West Pollice.  
155 East Wheel Rose. 75 Organos. 25 Wheel Oates.  
70 Ecton. 30 Orita. 25 Wheel Orebor.  
30 Flaggstaff. 30 Polbreon. 50 Wheel Jane.  
50 Frongoch. 50 Penhalls. 50 Wheel Kitty.  
50 Frontino. 50 Port Phillip. 40 Wheel Silver & Lang.  
50 Grogan. 130 Parys Copper. 100 Wheel Perseverance.  
110 Gold Coast. 20 Phoenix United. 100 Wynad Perseverance.  
45 Grogwinlon. 20 Phoenix United. 100 Wynad Perseverance.  
\* \* \* SHARES SOLD FOR FORWARD DELIVERY (ONE, TWO, OR THREE MONTHS) ON DEPOSIT OF TWENTY PER CENT.  
\* \* \* SPECIAL BUSINESS AT CLOSE PRICES in all Market TIN, COPPER and LEAD SHARES.  
JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**RAILWAYS—SPECIAL BUSINESS.**—Fortnightly Accounts opened on receipt of the usual cover.  
JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**FOREIGN BONDS—SPECIAL BUSINESS.**—Fortnightly Accounts opened on receipt of the usual cover.  
JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**AMERICAN AND CANADIAN STOCKS AND SHARES—SPECIAL BUSINESS.**—Fortnightly Accounts opened on receipt of the usual cover.  
JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**GOLD AND SILVER MINES.—SPECIAL BUSINESS IN ALL** marketable INDIAN GOLD SHARES, and in California, Callao "Bis," Gold Coast, Guinea Gold Coast, Lisbon-Berlyn, New Callao, West Callao, Tolima A, Tolima B, La Plata, Rio Tinto, Frontino and Bolivia, Potosi, Chile, Nouveau Monde, Ruby, Richmond, Victoria.  
\* \* \* SHARES IN THE ABOVE SOLD FOR FORWARD DELIVERY ONE, TWO, OR THREE MONTHS ON DEPOSIT OF TWENTY PER CENT.  
JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**MISCELLANEOUS SHARES OF ALL DESCRIPTIONS BOUGHT** or SOLD—SPECIAL BUSINESS:—Brighton Aquarium, General Credit, Hudson's Bay, Native Guano, Suez Canal, Westminster Aquarium, and Hotel Shares.  
Shares sold for forward delivery, ONE, TWO, OR THREE MONTHS, ON DEPOSIT OF TWENTY PER CENT.  
JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**ELECTRIC LIGHT SHARES—SPECIAL BUSINESS.**  
Anglo-American. Hammond. Swan.  
Brush. Maxim-Weston.  
Shares sold for cash, account, or for forward delivery (one, two, or three months) on deposit of 20 per cent.  
JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**EAST WHEEL ROSE, OLD SHEPHERDS, MOUNTS BAY, TREVAUNANCE, HOME MINES TRUST, DUCHY PERU.**  
SPECIAL BUSINESS in the above for cash or account.  
FOR SPECIAL SALE, FOR FORWARD DELIVERY, ONE, TWO, OR THREE MONTHS, subject to deposit of TWENTY PER CENT.—100 Duchy Peru, 100 East Wheel Rose, 200 Old Shepherds, 100 Trevaunance, 200 Mounts Bay.  
JAMES H. CROFTS, 1, FINCH LANE, LONDON.  
ESTABLISHED 1842.

**MR. W. H. BUMPUS, STOCK AND SHARE BROKER,**  
AND MINING SHARE DEALER,  
44, THREADNEEDLE STREET, LONDON, E.C.  
ESTABLISHED 1867.

BUSINESS transacted in STOCK EXCHANGE SECURITIES and MISCELLANEOUS SHARES of every description. RAILWAYS, BANKS, FOREIGN and COLONIAL BONDS, TRAMWAYS, TELEGRAPHS, and all the LEADING INVESTMENTS. Accounts opened for the Fortnightly Settlement.

A List of Investments free on application.  
Mr. BUMPUS has SPECIAL BUSINESS in the undermentioned:—  
100 Almaden. 100 Eberhard. 100 Old Shepherds.  
75 Asia Minor. 25 East Lovell. 40 Panulillo.  
50 Birdseye Creek. 40 Ecton. 100 Pen-y-r-Ossed.  
50 Bratsberg. 30 Frontino. 200 Potosi.  
100 Carn Camborne. 30 Great Holway. 100 Prince of Wales.  
20 Carn Brea. 100 Great Lacey. 10 Roman Gravel.  
20 Chontales. 100 Home Mines Trust. 70 Ruby.  
100 Colombian. 50 Indian Consolidated. 25 Richmond.  
120 Chile Gold. 25 Killifreth. 100 South Kitty.  
40 Colorado. 20 Leadhills. 50 South Caradon.  
100 California Gold. 120 La Plata. 50 South Condurow.  
15 Copiapo. 100 Lisbon-Berlyn. 50 South Darren.  
150 Callao Bis. 100 Montana. 15 Tolima B.  
5 Cook's Kitchen. 100 Marks Valley. 50 Transvaal Gold.  
50 Canada Copper. 100 Mounts Bay. 50 United Mexican.  
5 Dolcoath. 50 New Callao. 50 West Godolphin.  
50 Devon Friendship. 15 Minera. 20 Wheel Grenville.  
50 Devon Consols. 50 N. Trumpet Consols. 10 West Kitty.  
100 Duchy Peru. 35 New Kitty. 15 Wheel Basset.  
100 East Wheel Rose. 100 Nouveau Monde. 100 Wheel Oates.  
5 East Pool. 100 Organos. 50 Wheel Orebor.

W.B.—Prices of the above on application, or offers may be made. Several lots of shares in this list are for sale under market quotations.  
SPECIAL BUSINESS, at close prices, in the SHARES of all the principal HOME and FOREIGN MINES.  
Mr. BUMPUS devotes special attention to these Securities, and is in a position to afford reliable information and advice to intending investors and others.  
WILLIAM HENRY BUMPUS, SWORN BROKER,  
OFFICES: 44, THREADNEEDLE STREET, LONDON, E.C.  
ESTABLISHED 1867.

**BRITISH AND FOREIGN MINING OFFICES.**

Messrs. PETER WATSON AND CO.,  
15, AUSTIN FRIARS,  
OLD BROAD STREET, LONDON, E.C.  
BANKERS: THE ALLIANCE BANK (Limited).

**Messrs. PETER WATSON AND CO.'S**  
BRITISH AND FOREIGN MONTHLY MINING NEWS  
—STOCK AND SHARE INVESTMENT NOTES—MINES,  
MINERALS, AND METAL MARKETS—SHARE LIST,  
No. 864, Vol. XVII., for APRIL month, will shortly be ready,  
and will be sent to customers on application.

Annual Subscription..... 5s. | Single Copy..... 6d.

The Title Page and Index to our Eighteenth Volume are now ready, and can be obtained on application.

**MR. ALFRED E. COOKE,**  
STOCK AND SHARE DEALER,  
9, OLD BROAD STREET, LONDON.  
ESTABLISHED 1853.

MR. ALFRED E. COOKE can SELL the following shares, or portions thereof, at LOWEST CURRENT MARKET QUOTATIONS FREE OF COMMISSION.  
25 Bratsberg Copper. 75 Mounts Bay. 90 South Kitty Tin.  
90 Callao Bis Gold. 20 New Kitty Tin. 20 South Darren Silver.  
90 Colombian Hydraulic. 50 New West Caradon. 50 South Caradon Copper.  
50 Carn Camborne Tin & Copper. 50 New Caradon Copper. 15 Trevaunance.  
30 Chontales Gold. 50 New Callao Gold. 100 Tankerville Gt. Con.  
75 Corporation of South. 150 Nouveau Monde Gold. 75 Trevaunance Copper & Tin.  
Australia Copper. 50 New Callao Gold. 10 Tolima A.  
40 Cartago Gold. 50 Old Shepherds. 20 United Mexican Silver.  
75 Devon Friendship. 25 Organos. 50 Victoria Gold.  
5 Dolcoath Tin. 20 Orita Gold. 20 Western Andes.  
20 Duchy Peru Silver-ld. 20 Prince of Wales. 40 West Callao Gold.  
150 East Rose Lead. 100 Potosi Gold. 50 West Caradon Copper.  
50 East Blue Hills Tin. 75 Port Phillip Gold. 20 West Polbreon Tin.  
10 East Lovell Tin. 110 Parys Copper. 50 West Gouanena Cop.  
30 Ecton Copper. 20 Richmond Silver. 10 West Kitty Tin.  
90 Gold Coast. 20 Roman Gravel Lead. 50 Wheel Jane Tin.  
40 Home Mines Trust. 40 Ruby. 50 Wheel Orebor.  
50 La Plata Lead. 50 Sortridge Copper and Tin. 10 Wheel Agar Tin.  
20 Leadhills. 10 South Frances Tin. 100 West Orebor Copper.  
50 Lisbon-Berlyn Gold. 10 South Frances Tin. 100 West Orebor Copper.  
TEN PER CENT. DEPOSIT.—Many of the above shares can be sold for settlement by arrangement at the middle or end of May on payment of 10 per cent. deposit. Shares not found in the above list may be purchased on application.

MR. ALFRED E. COOKE is a BUYER of the following SHARES:—  
20 Bratsberg. 50 Mounts Bay. 50 Trevaunance.  
1 Dolcoath. 50 Old Shepherds. 5 Tolima A.  
10 East Lovell. 25 Organos. 25 Victoria.  
25 Ecton. 25 Richmond. 20 Wheel Orebor.  
40 Home Mines Trust. 100 Tankerville. 10 West Kitty.

**SPECIAL.—EAST BLUE HILLS, EAST LOVELL, NOUVEAU MONDE, SOUTH KITTY, SOUTH FRANCES, WEST KITTY, WHEAL AGAR, and WEST OREBOR** shares are likely to ADVANCE. Shares can be supplied for CASH or FORWARD DELIVERY.

PRICE LIST of MINE SHARES and the LEADING RAILWAY and FOREIGN STOCKS is issued every FRIDAY.

ALFRED E. COOKE, 9, OLD BROAD STREET, LONDON.  
(Opposite the Stock Exchange, with which the offices are in DIRECT TELEGRAPHIC COMMUNICATION.)  
TELEPHONE NUMBER, 1283.

**MR. JAMES STOCKER, STOCKBROKER,**  
2, CROWN COURT, THREADNEEDLE STREET, LONDON, E.C.  
Has Special Business in the following for cash or settlement by arrangement free of commission:—

50 Almaden. 60 East Rose. 65 Organos.  
100 Akankoo. 50 Gold Coast. 40 Panulillo.  
33 Bratsberg. 25 Great Lacey. 40 Prince of Wales.  
120 Consolidated Silver. 60 Home Mines. 80 Potosi.  
90 Californian. 150 Javali. 25 Polbreon.  
50 Callao Bis. 60 Kapanga. 30 Richmond.  
25 Carn Camborne. 150 Kohinor B. 25 South Kitty.  
70 Chile Gold. 50 La Plata. 15 South Frances.  
80 Chontales. 50 Leadhills. 60 South Penstruthal.  
75 Colombian. 85 Lisbon-Berlyn. 70 Trevaunance.  
50 Colorado. 20 Montana. 50 Transvaal Gold.  
50 Cor. So. Austr. Cop. 100 Mounts Bay. 15 Tolima A.  
30 Copiapo. 55 Michipicooten. 30 United Mexican.  
50 Devon Friendship. 75 New Callao. 100 Victoria Gold.  
15 Devon Consols. 100 Nouveau Monde. 20 West Callao.  
100 Denver. 60 Old Shepherds. 20 West Kitty.  
50 Ecton. 25 Orita. 25 Wheel Orebor.

Railways, Foreign Bonds, Gold and Silver Mines, Miscellaneous shares, and all Stock Exchange Securities.

ESTABLISHED 1851.  
BANKERS: LONDON AND WESTMINSTER.

**MR. ALEXANDER DAVIDSON,**  
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OF TWENTY-FIVE PER CENT.  
ONE HUNDRED PER CENT.  
RISE.  
**SCHWAB'S GULLY DIAMOND MINE**  
Shares fully-paid should be bought for a big rise. Telegrams announce the finding of 300-carat diamond in De Beers. Shares now purchased carry the dividend to be declared on 10th inst.  
**OLD SHEPHERDS.**—Important news expected during Easter, which will cause the shares to double in price. They should be bought at once for a big rise.  
Special Circular now ready sent post free.  
ABBOTT, PAGE, AND CO., STOCKBROKERS,  
42, POULTNEY, LONDON, E.C.

**Messrs. PENNINGTON AND CO., SWORN BROKERS AND SHARE DEALERS,** 13, MOORGATE STREET, LONDON, E.C.  
BUSINESS in all DESCRIPTIONS of STOCKS, MINING and other SHARES.  
ESTABLISHED 1869—BANKERS: ALLIANCE (Limited).

**JOHN B. REYNOLDS, STOCK AND SHARE DEALER,**  
37, WALBROOK, LONDON, E.C.  
Established Twenty-five Years.  
BANKERS: LONDON JOINT-STOCK.

**WEST KITTY, NEW KITTY, AND TREVAUNANCE.**

The very important meetings of these first-class mining companies are reported fully on page 353 in last week's Mining Journal, and the attention of those interested is particularly directed to the same.

**POLBREON, ST. AGNES.**  
The shares of this mine are in favour, and will advance probably to a very high figure. The mine has been inspected by gentlemen who are well known, and whose opinions are universally respected. Mr. REYNOLDS will be happy to furnish the particulars of their report, and to give to his correspondents any information in his power. The books of the company and all other particulars are open for inspection at the company's offices. The management is the same as that of West Kitty, and the property promises to be of a very high order. Mr. REYNOLDS directs attention to the fact that those who have purchased the shares can already obtain a fair profit. Mr. REYNOLDS further directs attention to the circumstances of his having been the first to introduce West Kitty, under very similar circumstances to those which now characterise Polbreon, St. Agnes, and Mr. REYNOLDS with equal confidence recommends the latter company's shares. West Kitty, with at present 12s. per share paid, returns 30s. per share per annum as a minimum dividend with every prospect of further increase. When West Kitty shares had only 2s. per share paid they were at a premium of 22 each. Mr. REYNOLDS refers to his remarks on page 399.

**FERDINAND R. KIRK, STOCKBROKER,**  
5, BIRCHIN LANE, LONDON, E.C.

**SPECIAL BUSINESS** in the following:—  
60 Bratsberg. 80 Montana. 50 Organos.  
70 East Wheel Rose. 30 Newport Abercarn. 80 Orita.  
100 Home Mines Trust. 100 North Blue Hills. 90 Polbreon.  
40 Leadhills. 60 Old Shepherds. 40 Transvaal Gold.

**SHARES WANTED:—**  
100 Chontales. 20 Great Lacey. 70 Orita.  
20 East Wheel Rose. 70 Mounts Bay. 50 Trevaunance.  
80 Home Mines Trust. 80 Old Shepherds. 80 Victoria Gold.

Sellers should state whether for cash or account, and name their price. Fortnightly accounts opened in Home Railways, Foreign Bonds, American and Canadian Railways, or receipt of the usual cover.

BANKERS: LONDON AND WESTMINSTER, Lothbury.

**THE "DIFFERENTIAL" PUMPING ENGINE**  
(DAVEY'S PATENT).  
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Published by ALFRED THOMAS, M.E., 10, Coleman-street, London, E.C.  
"Invaluable to those who cannot attend the markets."

ESTABLISHED 1852.  
**MR. HENRY J. TALLENTIRE,**  
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**SPECIAL BUSINESS** in all Home and Foreign Mines at close prices. **MARSH CIRCULAR** on application, containing valuable information and advice to Investors, post free. **SHARES SOLD** for forward delivery in one to three months upon usual deposit.

OFFICES:—21, THREADNEEDLE STREET, LONDON, E.C.  
BANKERS: CITY BANK, Threadneedle-street, E.C.

**MR. J. GRANT MACLEAN,**  
SHAREBROKER AND IRONBROKER, STERLING, N.B.  
Refers to his Share Market Report on page 399 of to-day's Journal.

**MR. E. J. BARTLETT, STOCK AND SHARE DEALER,**  
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Selected List of Investments post free on application.  
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ONE HUNDRED PER CENT. HAS BEEN MADE IN A WEEK.

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Special attention given to Mines in Mexico and United States of America. Inspections, Reports, and Consultations as to Working Machinery, &c.

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Business transacted in all classes of Securities. Selected List of Shares for immediate investment on application.

**Messrs. ENDEAN AND CO., STOCK AND SHARE DEALERS,** 85, GRACECHURCH STREET, LONDON, E.C.  
ESTABLISHED 1862.

BANKERS: LONDON AND WESTMINSTER, Lothbury, E.C.

**MR. W. B. COBB, 29, BISHOPSGATE STREET, LONDON.**  
TOLIMA, WESTERN ANDES, and CORPORATION SOUTH AUSTRIAN COPPER certain to have a great rise. See Circular, price 1s.

**MR. W. TREGELLAS, 40, BISHOPSGATE STREET**  
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Deals in all descriptions of STOCKS and SHARES at close market prices.

**Messrs. H. HALFORD AND CO.,**  
STOCK AND SHARE BROKERS  
2, ROYAL EXCHANGE AVENUE, E.C.  
Have BUSINESS in ECTON COMPANY SHARES.  
SELLERS are requested to communicate with the above.

**MR. W. MARLBOROUGH, STOCK AND SHARE DEALER,**  
29, BISHOPSGATE STREET, LONDON, E.C. (Established 31 Years)

Can SELL the following SHARES:—  
75 Almaden. 20 Leadhills. 15 Roman Gravel.  
20 Bratsberg. 5 Lombardy Rail, offer wanted. 100 Russell United.  
90 Colombian Hydraulic. 30 Mounts Bay. 10 South Darren.  
50 Corporation of South. 20 Montana. 120 Tankerville.  
Australia Copper. 20 Nouveau Monde. 20 United Mexican.  
80 Chontales. 25 New Trumpet Consols. 15 Wheel Orebor.  
20 Colorado. 50 Prince of Wales. 30 West Callao.  
50 Devon Friendship. 50 South Frances.

**VICTORIA GOLD (Venezuela).**—I strongly recommend the immediate purchase of these shares for an important rise; also CORPORATION OF SOUTH AUSTRIAN COPPER.

**PURCHASES FOR FORWARD DELIVERY AT SPECIAL PRICES ON RECEIPT OF DEPOSIT OF 20 PER CENT.**  
BUYER of any part of 100 Victoria Gold (Venezuela), Tolima A and B, Carn Camborne, East Brea, Home Mines Trust, Old Shepherds, and Mounts Bay.

BANKERS: ALLIANCE BANK (Limited).



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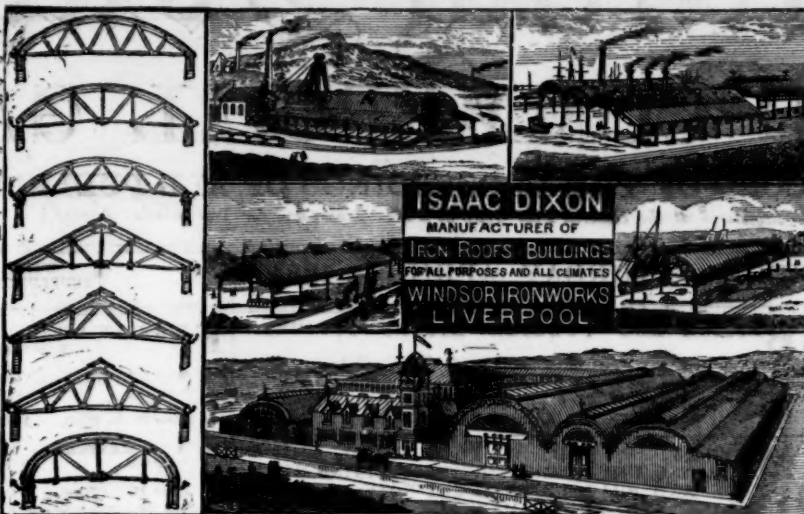
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TO WHOM ALL ORDERS SHOULD BE ADDRESSED.

ALSO AWARDED GOLD MEDAL AT CALCUTTA EXHIBITION.

## BAXTER'S PATENT KNAPPING STONE BREAKER.



1881.



FACTS SPEAK FOR THEMSELVES.



To Mr. Baxter, Leeds.

Cinderford, Feb. 13, 1883.

DEAR SIR,—I am pleased to be able to tell you that the Machine works splendidly. We are breaking 16 trucks a day now, and we thought it a good day's work to do 10 a day with the old Machine, so you can see the difference. I had a gentleman looking at it yesterday, and he was surprised to see it work so easily. Yours truly, E. ORGAN.

The above refers to one of our 16 by 9 Machines we supplied to replace an "Improved Blake" 15 by 9 Machine. Several of which have already been replaced by Baxter's.

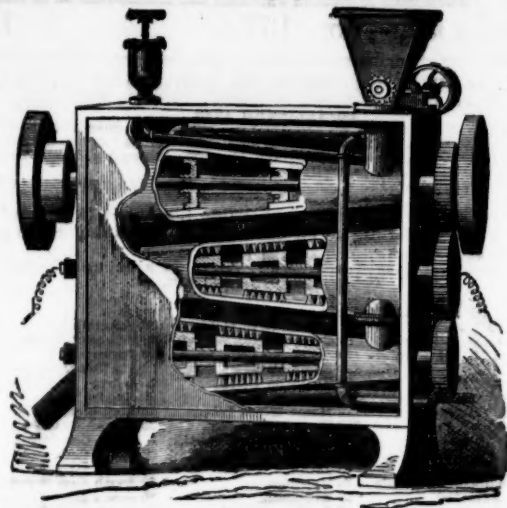
PATENTEES AND SOLE MAKERS,

W. H. BAXTER & CO., ALBION STREET, LEEDS.

## NOVEL ELECTRO METALLURGICAL MACHINE.

PROFESSOR JAMES MANES AND SONS call the attention of miners, mineowners, capitalists, and others interested in the working of gold or silver mines to their new Electro Metallurgical Machine for extracting fine and rusty gold from sands or tailings of stamp mills, or the sands of hydraulic gold diggings, or from the black sands on the coast of Oregon or California, and other parts of the world where gold is found.

The problem that has long troubled the worker of free-milling gold and silver ores is a method to save the mineral now lost in the tailings of stamp mills or flumes. This alone, if it could be saved, would amount to many million dollars profit each year, besides enabling the working of much territory which is now lying idle for want of an economical and thorough process of treatment.



Prof. James Manes and Sons, of Denver, Colorado, U.S., have invented a machine (represented in the above engraving) which it is claimed will save nearly the entire amount of mineral which passes through it, the loss not being over 10 per cent., and in many cases not in excess of half that amount. The machine is a cheap and practical process—it never need stop for charging or cleaning up, being nearly self-acting. Steam, electricity, and mercury are used in the process of extracting the mineral.

This machine or amalgamator is adapted for free-milling gold or silver ores, or refractory after roasting. It consists of a series of three or more large cylinders, wider at one end than the other, placed one above the other in a horizontal position, a shaft or spindle running through the centre of each.

The ore and mercury are fed into the first cylinder, passing into the second, and then to the third. The first cylinder is furnished with steel rollers which nearly touch the sides of the cylinder, and revolve at a good rate of speed, mixing the mercury and ore. The second cylinder is furnished with large steel brushes attached to the shaft or spindle, revolving at a high rate of speed; through this a current of electricity is furnished by a Westinghouse dynamic electric machine, which materially assists in gathering the particles of very fine gold together, and thoroughly amalgamating the metal and mercury. The third cylinder is similarly furnished to the second; into this the amalgam passes, and is again acted upon and mixed by the brushes to catch any gold which might have escaped amalgamation in the second. A fourth cylinder may be used if found necessary.

The amalgamated pulp then passes through a revolving copper drum, plated with quicksilver inside. As the drum revolves it takes up the most part of the amalgamated gold. As the inside of the drum is constantly washed with a spray of water from perforated pipes fixed inside of said drum, a clean-plated surface is constantly brought in contact with the pulp or tailings as it passes out from the cylinders. After leaving the drum it falls down on to incline copper plates, the same as is now used in stamp mills.

The amalgam can be collected from the drum and plates without stopping the machine, and any live quicksilver that passes will be caught in syphons. The tailings are carried off with the water. The machine when attached to the flume will be driven by the waste water; it sifts the fine sands from the coarse gravel, and amalgamates it as above.

The specific points claimed by Prof. Manes and Sons in their patent are—

- 1.—The saving of almost all the mineral passing through the machine.
- 2.—The loss being less than 10 per cent.
- 3.—The entire absence of loss of the amalgamated material, thereby saving all the mercury, which, with the processes now in use, there is a large loss both of mercury and the precious metal.
- 4.—The small cost per ton at which the ore can be treated.

By the addition of the powerful current of electricity that passes off the revolving brushes, the most minute particles of gold will be caught and retained, which in the ordinary flume and stamps passes off with the water; this often amounts to a large percentage.

The inventors state that if English stock companies will give their assistance to work the black sands of Oregon and California by paying for the building of the machines, they will take a share of the gold for their services, or they will send their machines to any part of the world, or will sell patent rights to those desiring any of their patent machines or revolving furnaces for roasting or smelting ores, ball pulverisers, &c.

Prof. James Manes and Sons are agents for the Morey and Sparey Ball Pulveriser, that crushes and pulverises at the same time, and does as much work as eight stamps in a day, crushing either wet or dry.

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sent high rate of royalty, it was resolved, that the directors be and they are hereby requested to place before Lord Hopetoun the views and wishes of the shareholders with regard to the reduction of the royalty at Leadhills, and in view of the serious depression which now prevails in the price of lead, and having regard to the vigorous development of the property, together with the improvements at the smelting-works, they respectfully urge upon his lordship to take into his most favourable consideration their application for a liberal reduction of the royalty, as set forth in the Chairman's letter of March 18. (Applause.)

Mr. GIBB seconded the motion, which was carried unanimously.

Mr. ROBERT WILSON proposed the re-election of Mr. Peter Watson, the retiring director, and in doing so bore testimony to the indefatigable exertions which Mr. Watson had put forth on behalf of the company. The proposition was seconded by Mr. James Wilson and adopted.

The CHAIRMAN having briefly returned thanks for his re-election, the meeting closed with the usual compliment to the Chairman and directors.

#### ALAMILLOS COMPANY.

The half-yearly general meeting of shareholders was held at the offices of the company, Queen-street-place, on Thursday.

In the absence, through indisposition, of Mr. J. P. Judd (the Chairman) the chair was occupied by Mr. WILLIAM COX.

Mr. HENRY SWAFFIELD (the secretary) read the notice calling the meeting.

The CHAIRMAN said he must repeat what he said at the meetings of the other companies—that he was glad to be able to congratulate the shareholders that they were able to declare a dividend. This had to a great extent been effected by making great economies, and by a reduction in carriage and freight. The mine had been remarkably good, and everything connected with the three companies was now as cheering as when he first joined the company, except the price of lead. The mention of the price of lead induced him to refer to a curious fact. He read the other day that there were periods of depression in the price. He read the other day that in 1734 lead was down to 11s. per ton. It gradually rose to 3s. per ton, and kept at a good price. Fifty years afterwards, in 1784, it went down to 11s. per ton again, and then it rose again, and continued at a very good price. In 1834 it went down again, and again rose; and now in 1884, 50 years afterwards, it was again down to about 11s. per ton. Looking at these facts, he thought they might reasonably hope to see the price of lead again go up. (Hear, hear.) He moved the adoption of the report and accounts.

Mr. S. J. WILDE seconded the motion.

Mr. JOHN TAYLOR said he could assure the shareholders that the mine was not being "sweated." The exploratory work was being properly carried out, and they were driving 10 or 11 levels, and there were several winzes being sunk, and they were also going to the expense of sinking a shaft. So they were not dependent upon the tributors, but if they were they might very probably be "sweating" the mine. The exploratory work was being carried on with the utmost vigour. At the last meeting the San Victor shaft was spoken of very hopefully and also the ground in its vicinity. Since then the 80 east from the shaft had opened up a considerable length of valuable ground. He believed the opening up had been more important, and had given better results than before. He looked upon that as an important feature, because it was at the comparatively shallow depth of 80 fms; therefore this mine was still in its infancy. The agents were devoting every attention to the further sinking of this shaft. Good quantities of ore had been discovered in other parts of the mine, which continued to open up satisfactorily. The tribute system had proved a great advantage. He thought, on the whole, the position of the company was a matter for congratulation. (Hear, hear.)

On the motion of the CHAIRMAN, seconded by Mr. PRILL, the retiring directors, Mr. H. D. Abercrombie and Mr. Fred. W. Bigge, were re-appointed.

The retiring auditors, Mr. E. J. St. John and Mr. R. Donagan, were re-appointed.

A vote of thanks to the Chairman and directors closed the meeting.

#### FORTUNA COMPANY.

The half-yearly general meeting of shareholders was held at the office of the company, Queen-street-place, on Thursday. In the unavoidable absence of Mr. Robert Henty (the Chairman) the chair was occupied by Mr. WILLIAM COX.

Mr. HENRY SWAFFIELD (the secretary) read the notice calling the meeting.

The CHAIRMAN said that, looking at the wretchedly low price of lead, he thought the shareholders would consider themselves fortunate in being able to declare a dividend at all, although but a small dividend. They talked about a small dividend, but, after all, a dividend of 3s. 2d. per share on a 2s. share was not so bad. (Hear, hear.) In years gone by they had paid 14s., 15s., and 16s. per share, and he remembered that one year in Fortuna they paid 1s. 5s. per share. He was exceedingly pleased—as a large shareholder—that by the economies which had been effected, and by the arrangements they had made with railway companies and shipowners regarding freight, that they had been enabled to make the present dividend. He sincerely hoped that six months hence they would see some improvement in the price of lead which would enable the company to go on more flourishingly. He moved the adoption of the report and accounts. Mr. LONGCLUSE seconded the motion.

Mr. S. J. WILDE said he could congratulate them that in this company they had carried something to the reserve fund.

The CHAIRMAN: We are obliged to do it. (A laugh.)

Mr. S. J. WILDE: I wish you were obliged in the other companies.

The resolution for the adoption of the report and accounts was then put and carried.

Mr. JOHN R. PRILL moved the re-election of the retiring directors, Mr. Wm. Cox and Mr. H. D. Abercrombie, which was seconded by Mr. LONGCLUSE, and carried.

The auditors, Mr. E. J. St. John and Mr. Richard Donagan, were re-appointed.

Mr. JOHN TAYLOR said he had in his hand a curious statement, which might be interesting to the shareholders, and which showed that the present low price of lead was not unprecedented, as some people seemed to think. That statement, in his grandfather's handwriting, showed that 100 years since the price of lead was as low as now. In 1783 English pig-lead stood at precisely the same figure as it did now; pig-lead was 11s. 5s. to 11s. 1s. per ton yesterday, and was 11s. 7s. 6d. per ton in 1783. He did not know that they could gather any inspiration from that followed; but three years afterwards the price went to 13s. 12s. per ton, and 20 years after it was 35s. 12s. 6d. per ton, and it remained at a high price for some years afterwards. There was also a curious little statement in the memorandum to which he had referred, to the effect that Spain possessed lead mines, but the export of the produce was prohibited. Of course, the circumstances of the lead trade were different to what they were at that time. The means of communication were wonderfully improved, other materials had been substituted for lead, and large quantities of lead were now known which were not known at the time; so that they could scarcely look for a return to those delightful prices of lead. But he could not see how lead was to remain at its present price, or how mines could be self-supporting at the present price. Certainly in England it was not possible. In Los Salidos Mines the productive power had been maintained, and large quantities of ore had been opened up, and the reserves were satisfactorily kept up. The deepest portion of the mine was opening up extremely well, and the lead ore there averaged 4 tons per fm. for a long distance. The San Anton Mine continued to produce fairly, and to open up well. Capt. Tonkin had obtained a considerable reduction in the carriage, which showed amongst other things the great care which he exercised in the way of economy, and the best thanks of the shareholders were due to Capt. Tonkin for the zeal and energy he continued to display in the company's service. (Hear, hear.)

On the motion of Mr. S. J. WILDE, seconded by Mr. KINGFORD, a vote of thanks was passed to the Chairman and directors, and the meeting broke up.

#### LINARES LEAD MINING COMPANY.

The half-yearly meeting of shareholders was held at the offices of the company, Queen-street-place, on Thursday.

Mr. Wm. Cox in the chair.

Mr. HENRY SWAFFIELD (the secretary) read the notice calling the meeting; the report and accounts were taken as read.

The CHAIRMAN, in moving the adoption of the report and accounts, said he had but very few observations to make. He had on a previous occasion been twitted with playing upon the same string. Well, he was afraid that string was not yet worn out, because he had still to speak of the dreadfully low price of lead. They had this week sold lead at the low price of 10s. 18s. 9d. per ton, and 11s. per ton was the best price they could obtain for lead containing silver. Therefore, under these circumstances it was almost a matter of surprise to be able to declare a dividend of 3s. per share. Now, 3s. per share for the half-year upon a 3s. share was 10 per cent. per annum, which was not a bad return to those who bought their shares at 3s. per share; but he happened years ago to buy about 100 shares at 12s. 2s. 6d., and others varying from 8s. to 10s. a piece. Therefore, to him the return was not so good. However, if they could go on paying a dividend he should be satisfied. He really thought the time must come when they would get a better price for their produce. If it were not for the management in Spain, to say nothing of the management in this country, and for everything being strictly looked over, he did not see how any dividend could have been made at all. The company was saving by paying less for coal, for railway carriage, and for freight. He was asked the other day by a proprietor, to whom he was giving this explanation, how it was that they did not pay less rates two or three years ago, and the answer was for this reason, that ship-owners and railway companies would rather carry the goods for less than lose the whole; and a small reduction on the 30,000 or 40,000 tons sent by this and the other two companies meant a considerable amount in the aggregate. The fact was that things were looking so bad that the directors took the ship-owners and the railway owners into their confidence, and after some negotiations arrangements were entered into for a reduction of price, and the company had made the small profit it had done. In fact, looking at the low price of lead, the shareholders might almost be thankful that they got a dividend at all. (Hear, hear.) He moved the adoption of the report and accounts. Mr. S. J. WILDE seconded the motion. He noticed that the directors had not added to the reserve fund.

The CHAIRMAN said none of the profits from the working had been put to the

reserve, but the rest of the house at Cordova, and also the dividends on Consols, went to the reserve fund.

The resolution for the adoption of the report and accounts was then put and carried.

Mr. FRED. W. BIGGE moved the re-election of the retiring directors—Mr. Wm. Cox and Mr. H. D. Abercrombie.—Mr. JOLLIFFE seconded the motion, which was put and carried.

On the motion of the CHAIRMAN, seconded by Mr. H. D. ABERCROMBIE, the auditors—Mr. E. L. Agar and Mr. Richard Donagan, were re-appointed.

The CHAIRMAN said he was sure the shareholders would like to hear a few words from Mr. John Taylor. (Hear, hear.)

Mr. JOHN TAYLOR said he had really very little to add to what was stated in the report. If the price of lead were only such as to give the company a fair chance the position of the mine would be really very satisfactory. The explorations had resulted in the discovery of considerable quantities of ore in different places. The great work which had been mentioned to the shareholders six months ago had now been completed—the cross-cut by which the water would flow from Warner's shaft to Pell's shaft. Last September a saving of 3000 l. per annum was made from that work. They had a powerful pumping-engine at Pell's, which would do away with the expensive pumping by horizontal rods. The appearance of the lode in the deeper part of the mine justified the expense incurred in sinking. The 130, driving west of Warner's shaft, was opening up well, and in December was reported to be worth 2 tons to the fathom, and the value had been maintained since that date. The lode in the 115, driving west of Warner's engine-shaft, was worth on an average 1 ton to the fathom, and there were other points with equally good prospects. In Los Quintones all the levels were looking well, particularly in the 100, east of Taylor's shaft, where there had been opened up a great length of rich ground, reported to be worth 3 tons to the fathom. In the 115 east the lode was reported strong and well defined, and in the 90, driving east of Taylor's engine-shaft, and in the 85, driving east of Judd's shaft, the lodes were reported to be good. The report on the smelting-works read satisfactorily. Every effort was made to economise in all the works, and if the price of lead were only better, the position of the company would now be as good as ever it had been in the past. As regarded his own appointment as manager, he desired to express the great satisfaction it was to him to feel that the position which had been filled by his father and uncle had been continued to his firm, and he hoped the shareholders would see, in making the appointment, that they had done what was best for the interests of the company in which they were so largely interested. (Hear, hear.)

Mr. JOLLIFFE asked the reason of the low price of lead?—The CHAIRMAN said that reason was over production, and the other the shutting out of the working of the 115 East of Taylor's shaft. Thousands of tons were now produced in Germany, which was not the case some years ago. There were also some importations from other countries. Formerly there were large exportations of lead to America, but now lead was shut out from that country.

On the motion of Mr. RICHARD DONAGAN, seconded by Mr. JOLLIFFE, a cordial vote of thanks was passed to the Chairman and directors, and the meeting broke up.

#### ANTIOQUIA (FRONTINO) COMPANY.

The ordinary general meeting of shareholders was held at the offices of the company, Gresham House, Old Broad-street, yesterday.

Mr. RICHARD DONAGAN in the chair.

Mr. J. JAMESON TRUMAN (the secretary) read the notice convening the meeting. The report and accounts were taken as read.

The CHAIRMAN having expressed the wish that a larger number of shareholders had been present, said that although they could not refer to the fact that they were enjoying the delights of fruition, yet, nevertheless, they had the pleasures of hope, and of very well-grounded hope too; because they had, after years and years of effort and groping, attained the object which, in the early stages of the company, was expected to be achieved in a few months. The old, ruinous part of the property had been abandoned, and the workings below that part of the mine had been brought into a productive condition. They had had to sink a small shaft to get under and drain the old workings, and in the course of that operation they had had to deal with a large amount of water. As soon as the new shaft was communicated with the old the old workings were also communicated, with the result that the water was got rid of, and since then explorations and investigations had been made to see what could be found there. All the expectations that had been held out of what was to be found had been since confirmed, at any rate so far as estimate and judgment could go. Operations had now, however, really been commenced, and with the limited amount of clearing away that had yet been effected, experience had borne out the success that had been predicted. The Chairman explained the course of the operations, and said that as the old and dilapidated 6-inch mill had been going on for some years, the new one had been erected at the mouth of the new shaft. A 12-inch mill had been commenced, and was in a very nearly completed state, and the old 6-inch mill was about being converted into a 9-inch one. They would then have 30 heads of stamps at work, and Mr. J. H. White, the manager, said by the current month he would have these mills at work, and regularly supplied with paying ore. If that should be the case there would undoubtedly be a profit, because, notwithstanding the wretched circumstances under which they had been working, they had sometimes been able to make a profit. The accounts before them showed a loss, but the loss was less than it had been in the previous year. The accounts only came up to April 30, 1883, but since then the accounts for nine months' working had been received, bringing the information up to the end of January last. During those nine months the returns had yielded 2031s., while the cost had been 2027s., showing in the result a small profit. In four of the months there had been a loss, and in five of them a profit, and this showed that when the mining operations were capable of being carried on it was possible, even with the old 6-inch mill, for them to make a profit. They were therefore, he thought, justified in expecting a very satisfactory result when the 30 heads are at work. The calculations that had been made with regard to keeping the mills employed, as to the amount of ore that might be returned, and also as to the yield of gold, had been confined entirely to operations on the Carmen lode; but there were many other lodes in the property, notably the Grupero and Escobar lodes. It was considered that from the adit level recently driven it would be possible to drive cross-cuts to cut those lodes. It had not been possible to do so simultaneously with the driving of the adit; but with the increased returns that might now be expected, it was hoped that some part of the profit derived from the Carmen lode might be devoted to the development of the Grupero and Escobar lodes. This should be the result of their present operations; they would have to erect more mills, and at some future time they would have to construct a deeper adit, for they had by no means the lowest point of natural drainage. The effect of that would be, it was hoped, to enable the workings to be extended to the point at which it was calculated—and he believed with reason—that the different lodes met, and where a very large deposit of ore was to be anticipated. At the last meeting the directors were begging for money, and the chief part of last year's report was as to the terms upon which the money was to be raised, and the purposes for which it was wanted. He was pleased to be able to report that the shareholders had shown sufficient confidence in the mine to provide the directors with the amount required. They were asked to subscribe something over 3000 l. on debentures, and the amount actually subscribed and paid upon was 3000 l. The debentures carried free shares, and the bonds, together with the share certificates, would shortly be issued. In consequence of this issue the debenture debt of the company now stood at 14,095 l., and the capital of the company at 45,000 l. In 12 shares, all of which had been allotted with the exception of 47 l. Out of the 3000 l. subscribed upon the debentures, 1500 l. had been remitted to the bankers to meet the expenditure at the mine, in completion of the adit and the erection of the mills; debts to the amount of 357 l. had been discharged in this country; interest on the debentures and current expenses of the company—with the exception of the directors' fees—had been paid, and there now remained 618 l. 7s. 7d., which they would very soon have to send away. He, therefore, thought he might congratulate the shareholders on the fact that the capital they had subscribed had been sufficient for the purposes for which it was raised, that they had been able to pay the interest on the whole of the debenture debt, and that they would not require any more capital. He (the Chairman) then moved the adoption of the report and accounts. Mr. G. D. HARRIS seconded the motion.

The CHAIRMAN, in reply to a SHAREHOLDER, said the mine was in a hill, and some of the lodes, besides the Carmen lode, had been worked very extensively, but they met with a cross-course, which displaced the lodes; but in all probability the lodes would be found beyond the cross-course, and that they would visit the Carmen lode again. He would also visit Antioquia, when he would thoroughly inspect the mine and appliances, and do all he could to promote the interests of the company. (Cheers.) He expected to return in October, when, of course, the shareholders would be informed of his views. (Hear, hear.)—The motion was then put and carried unanimously.

The Hon. F. C. DRUMMOND proposed the re-election of Mr. R. Donagan as a director.—Mr. CHILD seconded the proposition, which was carried.

On the motion of Mr. DRUMMOND, seconded by Mr. HARRIS, Mr. C. F. Lowe was re-elected a director, and on the motion of the CHAIRMAN, seconded by Mr. Lowe, the election to the board of Mr. G. D. Harris was confirmed.

Mr. Samuel Lovelock was appointed auditor.

The meeting then closed with a vote of thanks to the Chairman and directors.

#### GENERAL MINING ASSOCIATION.

The ordinary general meeting of the shareholders was held at the City Terminus Hotel, Cannon-street, yesterday.

Colonel E. W. SCOVELL in the chair.

Mr. C. G. SWANN (the secretary) read the notice convening the meeting, and the minutes of the preceding meeting which were confirmed. The report and accounts were taken as read.

The CHAIRMAN said he thought the shareholders would have seen from the report that the anticipations which he ventured to hold out at the preceding meeting had been at least realised if not exceeded.—(Hear, hear.)—for although the actual sales of coal at the Sydney mines, their chief source of revenue, were about 2000 tons less than they were the year before, yet the amount received had been much about the same, and the total receipts from the Sydney mines—owing to augmented rents and other matters—were rather in excess of the year before, while there had been a saving of 1000 l. in the working expenses. The saving was chiefly referable to the saving in the expenditure on the materials used, which was a constantly fluctuating item. Against this the directors had thought it better to write off a larger amount against what was actually a depreciation fund, the amount so written off being 3000 l., against the usual sum of about 2000 l. The profit derived from the working of the Sydney mines had been 14,500 l., against 13,100 l. in the previous year.—(Cheers.)—so that so far as those mines were concerned the operations had been more satis-

factory than in the previous year. With regard to the Lingam Mine there again a deficit was shown; but he had explained at the last meeting that they must look forward to such a deficit, owing to the operation of the long continued strike, which lasted for upwards of thirteen months, and only terminated in May last. This strike had not only involved legal and other direct expenses, but there were several incidental charges which were referable in a great measure to this occurrence. The sales at Lingam had amounted to 13,500 tons, showing an increase of 12,000 tons over the previous year, when there were practically no sales. This was, so far as it went, satisfactory, but it contrasted with 28,000 tons sold in 1880, and 32,500 tons in 1881. The strike had, of course, put the coal out of the market, and the uncertainty of its duration had prevented a larger amount of coal being actually sold after the strike closed. The loss on the working of the Lingam Mine had been 13000 l. against 19000 l. in the previous year. Of the other sources of revenue the shares held by the association in the Spring Hill Mining Company appeared as the shareholders are aware, for the last time as an item of revenue. The dividend received had amounted to 2291 l. on the augmented number of shares, as against 2279 l. received on the original holding of 3205 shares in the previous year, while the other items of revenue were much about the same. The total profits realised amounted to 13,733 l., against 11,182 l., and the total available balance now shown was 14,119 l., and out of this the directors proposed to pay a dividend of 10s. per share. (Cheers.) It would thus be seen that they were dividing pretty well up to the hilt, but it must be remembered that the reserve had been augmented to a considerable extent, and the directors felt that the shareholders were entitled to divide the profits actually arising from the operations of the year. (Hear, hear.) With regard to the Spring Hill Mining Company, the shareholders were aware the directors had been reluctantly compelled to part with the interest of the association in that company, owing to the transfer of the Spring Hill property to a company in which this association would not have a controlling interest. It would be remembered that in the previous balance-sheet the Spring Hill shares had stood at 22,650 l.; but in the spring of last year they were sold to the association for 25 per cent. of their holding in fully paid shares, to represent the amount which had been applied to capital purposes out of revenue in previous years, so that the holding of Spring Hill shares had actually produced 39,366 l. 17s. 5d., being 7316 l. 17s. 5d. in excess of the value at which the shares originally stood. Out of this excess the directors proposed to pay a bonus of 5s. per share, which would absorb 6867 l. 5s., and leave a balance of 4495 l. 12s. 5d. to be carried to the next profit and loss account. (Hear, hear.) They felt that they were perfectly justified in this course, seeing that it was only dividing what should have been returned as profits in previous years. (Cheers.) The Chairman then referred to the prospectus of the Low Point Barris and Lingam Mining Company, a company which had been formed to develop some of the unworked areas of the association, and expressed the hope that the controlling interest which they would retain in the new company would be as beneficial to the association as the arrangements with regard to the Spring Hill property had been. It would be seen that the greater number of the shares in the new company, which it was stipulated should be allotted to the association, were to be held until 7 per cent. should have been paid upon the new capital; but the area were quite undeveloped, and it was only fair that the new company should be allowed to develop the property without having to pay on too large an amount of capital. The endeavour of the directors had been not only to make the concern dividend-paying, but to establish it upon a sound financial position. (Cheers.) They had to face the fact that the area which were not working in 1883 would pass away from them, and, therefore, their policy had been to realise upon those areas while they could, and he did not think that they had been unsuccessful in carrying out that policy. (Hear, hear.) The association was now in a perfectly sound financial condition, and in contrast with a debt of 50,000 l. or 60,000 l., which they had 10 years ago, they had a reserve of about 48,000 l. (Cheers.) In conclusion, the Chairman moved the adoption of the report and accounts, and the declaration of a dividend of 10s. per share and a bonus of 5s. per share, both free of income tax, payable on and after the 7th inst.—Mr. CHARLES BISCHOFF seconded the motion, which was adopted without dissent.

The CHAIRMAN moved the re-election of the retiring directors—Messrs. Charles Bischoff and James Duke Hill, and in doing so tendered those gentlemen his thanks for the great assistance which they had given in the conduct of the affairs of the association.—Mr. BRIDGE seconded the motion, and it was carried.

On the motion of Mr. BRIDGE, seconded by Mr. HARDING, the retiring auditor, Mr. Charles Chatteris, was re-elected.

Mr. CLAUKE offered his congratulations to the directors on the improved results of the operations of the association, and referred to the exertions which the directors had displayed in their management of the association. He moved: "That this meeting begs to tender its warmest thanks to the Chairman and directors of the General Mining Association for their excellent conduct of the affairs of the association during a very trying period, and hereby resolve that in acknowledgment of their services the remuneration for the board for the past year, and until altered by general meeting, be restored to the sum of 1500 guineas. (Cheers.)"—Mr. WILLIAMS seconded the motion, which was supported by Mr. THOMAS DAVENPORT, Mr. WILSON, and Mr. WILSON.

The CHAIRMAN having acknowledged the vote in suitable terms, referred in a very complimentary manner to the valuable services which the association has continued to receive from Mr. Swann (the secretary), to whom he proposed a vote of thanks.

The proposition was seconded by a Shareholder, and agreed to, and Mr. SWANN briefly acknowledged the compliment.—The meeting then closed.

#### FOREIGN MINES.

ALAMILLOS.—March 28: In the 20, driving west of San Martin shaft, the granite continues hard, the lode yielding 14 ton per fm. In the 20, driving west of Santa Ageda shaft, good progress is being made. The 50, driving west of San Felipe shaft, is being driven on the side. The lode in the 85, driving east of San Enrique shaft, has declined in value, but is still producing stones of ore. In the 130, west of Taylor's engine-shaft, the lode is quite unproductive. In the 130, driving east of Taylor's engine-shaft, stones of ore are taken from the lode. The lode in the 115, driving in the same direction, is producing stones of ore. In the 80, driving east of San Victor shaft, the lode is much wider than the level, yielding 3 tons of ore per fm. In the 70, driving west of Judd's shaft, there is nothing but a wall to follow. The lode in Antonio's winze, sinking below the 50, the lode is producing a little lead. Antonio's winze, sinking below the 50, has improved in value to 1 ton per fm. In Roda's winze, sinking below the 50, the lode is producing a little lead. Antonio's winze, sinking below the 50, is going through good stopping ground, yielding 1 ton per fm.

ALMADA AND TRITO CONSOLIDATED SILVER.—R. Harris, March 1: Mina Grande "Hundred" Lode: The slope in the back of the tunnel shows no change since our last report; the pay streak is 2 ft. wide, containing 8 American tons per lineal fathom. The slope in the back of the 12 fm. level presents a fine appearance; this slope maintains its former yield of 16 American tons per lineal fathom. The pay streak shows 4 ft. of solid ore. In No. 1 winze, below the 12, 6' 3" ft. were sunk during the fortnight, at 81s per foot; the bottom shows 5 in. of ore. This narrowing is probably on account of the winze being so near the southern extremity of the lode. The bottom of the winze shows 2 American tons. No. 2 winze, below the 12, was sunk 4 ft., at 81s per foot; this winze has now attained a depth of the 24 fathoms, and we have started drifting on the lode in that level. The pay streak in the bottom of the winze shows 2 ft. of ore, which we value at 8 American tons per lineal fathom.

No. 3 winze, below the 12, is without change since our last report. The bottom is in 6 ft. of solid ore. We estimate its yield at 24 tons per cubic fathom. The ore from this branch is of higher grade than the lode has previously yielded; 6' 3" ft. were sunk, at 81s per ft.—Driving Cross-Cut West at 40 ft. Drift: The object of this cross-cut is the continuance of the western branch in height (93 ft.) were driven.—Western Branch, Tunnel Level: We have now opened 21 ft. in length at this level; the drifts both north and south are looking well. San Juan slope is still yielding 12 American tons per lineal fathom. The slope carries 3 ft. of milling ore.

—W. A. Clemen, March 1: Leaching for week, \$5885.

The directors have received the following telegram from their Mine Manager, dated March 26: Profit for February, \$2128. The total length of ore ground opened by drift on level at 24 is 35 ft. Width of pay streak, 5 ft. ft.

ANTIOQUIA (FRONTINO).—The statement of profit and loss for January shows that 85 tons of mineral produced 56 oz. gold (average 13½ dwts.); 243 tons of attle produced 16 oz. gold; estimated value, including exchange, 211, 17s.; cost at the mine, at Medellin and in London, 2041. 18s. 5d.; estimated profit, 74. 0s. 7d. but 1864. 8s. had been spent on capital account.

ASIA MINOR.—J. W. H. Escherich, F. J. C. Munschied, March 30: February Report: Main Adit Level: A rise was begun Feb. 23, and serves for ventilation passing down the ore.—Level I. (Arthur): Total stopings 2 tons per fm. Level II. (Hamburg): Total stopings 1½ to 3 tons per fm.—Level III. (Petri): The rise No. 2, Level II, having left the lode we now drive south of it, hence the reduction in contract rate; total stopings, value 2 to 2½ tons per fathom.—Level IIIA. (Ancient Air Shaft): In February another 2 fms. were sunk, in all now about 11 fms. The appearance of the lode remains the same.—Level IV. (Savalan): A cross-cut was commenced on Feb. 1; total stopings value 2 tons per fathom.—Level VI. (Durfield): The rise No. 2, total stopings value 1½ tons per fathom.—Level VII. (Hadj): Total stopings value 1½ to 2 tons per fathom.—Level VIII. (Hadj): Total stopings value 2½ to 2½ tons per fathom.

General Remarks: Production from shaft brought to bank in February, and averaging as per assays 18½ per cent. of ore—say, 192 tons of ore, besides 10 tons of picked ore; total, 202 tons, or about 9 tons per day in 23 working days, against 8 tons per day in January, 1883, and 8 tons per day in February, 1883. The above-named 2½ tons are produced from 43 stops, whilst we could work another 52, estimated to produce at least the same quantity, which we want of hands cannot be done at present.—Dressing Floors: The cleaning and repair of machinery were continued, and the work is resumed by the middle of next month. The supply in February was 3½ cubic feet against 4½ cubic feet last month. The stock of dressed ore at dressing-floors on Feb. 29 amounted to 40 tons from jiggers and 60 tons from buddles awaiting transport. Transport to Kerasunde in February 25 tons direct and 25 tons to Gumbet (on the other side of the mountain), in all 50 tons against 18 tons in January. Weather, with the exception of occasional storms, was pretty mild considering the season of the year.

BELT COPPER.—A. Brand, March 17: My last report was dated Feb. 23, since then I have to report as follows:—Champion Vein: As explained Feb. 23, our holding was stopped for a considerable time owing to the fact that we were getting in a new skip road in No. 1 shaft. This has hindered us from doing almost any opening as the drifts became filled up with waste, not being able to hoist it therefore commenced stoping. No. 2 slope west is now 52 ft. long, and over 10 ft. above the back of the second level. This slope is turning out very good stamp-rock, mostly in epidote, and some small barrel work. The second level east we have started to stop about 25 ft. east of No. 1 shaft, thus leaving a strong enough pillar to support the shaft. We are carrying this slope on a crossing or fissure vein. The width of the slope is 30 ft., and we are now about 12 ft. above the back of the second level. When we started this slope there was no copper in sight whatever, but judging from the fact that in the first level east we found good copper against this same crossing we determined to try it, and the result is that after stoping a few feet we have come on a full or chute of good stamp work also showing some good barrel work. In No. 1 slope west where we had been stoping underhand we had to stop on account of water. In the large slope between the first and second levels we have been stoping down the vein in the hanging-wall. In this slope two workings meet, and consequently we have thrown down an immense amount of rock. The vein



**ROYAL AQUARIUM.**—The programme prepared for the East holidays, including musical selections, acrobatic and gymnastic exercises, and various other amusements, will not fail to be attractive to readers of the *Mining Journal* visiting the Metropolis during the coming fortnight.



IRISH MINING AND MISCELLANEOUS COMPANIES SHARE  
MARKET.

CORK.—Messrs. J. H. CARROLL and SONS, stock and share brokers, South Mall (April 8), write:—Markets improved again to-day. Great Southern and Westerns changed hands at 116, and Midlands at 81½ to 81½. Great Northern, 114; Wicklows, 63½. Bandons unaltered. Bantry Extension shares were taken at 10½ ex div. Ilen Valley stock remains 104½. No change in Bank stock, Provincials, or Hibernians. National Banks were done at 24½, and Munsters at 6 5-16ths to 6½. Alliance Gas in demand at 18½. Cork Gas steady at 7½. Gouldings changed hands at 8½. Levys remain 6. Lyons and Co. shares fully paid were offered at 6½, and Gresham Hotels asked for at 3½. Dalys unchanged. Brewery shares were done at 4. Lyons and Co. Debentures remain 102. Harbour Board Debentures wanted at 102 to 102½.

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**Mining Correspondence.**

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BRITISH MINES.

**BEDFORD UNITED.**—H. Tresise, April 1: Bridge Lode: The shaftmen are busily engaged in putting in skidpore to the 75; when completed the driving of this level west will be resumed, and I hope to cut the lode very shortly. Owing to an accident at the caul we have been deprived of water for a few days, but the mine is now in full work. In the 32 we t the lode is very promising, producing 100 tons of ore each. In the 42 the lode is very rich, and contains a number of tons of ore each. In the 62 east the ground is very congenial for the production of copper ore, and the lode is yielding ore of good quality. Two stops beyond the end are worth 54 and 61 per fathom. Three stops at the 42 are worth 61, 131, and 71 per fathom respectively. We have sampled 187 tons of ore; 100 tons from the Bridge lode and 20 tons from the north lode, of fair average quality.

**CARN CAMBORNE.**—W. C. Vivian, April 3: In the 105, east of engine-shaft cross-cut, there is some improvement, and the lode, which has been small, is increasing in size, and contains some good copper ore. In the same level west of the lode is also increasing in size (having been small), but is not yielding ore at present.

OREGIOG.—H. Hobbins, April 2: Each point at work in this mine is looking much the same as last reported. The ground in the forebrest of the 130 cross-cut is highly mineralized. To-day I found small cubes of lead ore embedded in the rock in several places; this I look upon as a good indication. CWMYSTWILL.—J. B. Rowe, April 2: The lode has not been taken down in the mine below Gill's upper level, west of western cross-cut, since its commencement. The ground here, as also in the rise immediately under, has become drier. The lode in the rise over the 15 yields  $\frac{1}{2}$  ton of lead and 2 tons of blende per fathom. The two stopes over Gill's lower level and under Gill's upper level yield an average of 8 cwt. of lead and 2 tons of blende per fathom respectively. There is no change worthy of remark in any of our tribute pitches since the last report. The weather is a trifle warmer, but not much warmer. On Monday last, the weather during the last fortnight has been generally favorable for surface work. We sent out samples yesterday of 23 tons of lead ore, on sale on the 15th inst.

DERESBY MOUNTAIN.—J. Roberts, W. Sandoe, April 2: During the past week or two fine weather the water in the surface shaft has been very little, and the sinking has gone on very well indeed; we are now very nearly through; we are very sanguine of being able to get a hole through in the course of this week, and in a very few days to have the shaft all squared down to the No. 4, the shaft sinking below No. 4 there is a mixture of lead still throughout the shaft, but of less value than so far ago. The sinking here goes on at a rapid rate. The rise of No. 6 is also setting up, well indeed, considering the nature of the ground, slender ventilation, &c., but we have here a very nice lode, worth 15 cwt. of lead ore per fathom, and the richer part is in the south end of the rise going into the hill.

**DEVON FRIENDS** F.—F. R. W. Daw, Wm. Giff, April 2: The 42 end, east of Bennett's engine-shaft, is set to two men, at 74. 10s. per fm.; the lode is 3 ft. wide, worth 15¢. per fathom for mungie and kin. The two stope in back of the 42 end, is set to two men, at 23s. 6. fm.; the lode is 2 ft. wide, worth 15¢. per fathom for mungie and kin. The 39 end, east of Bennett's engine-shaft, is set to two men, at 23s. 6. fm.; the lode is 3 ft. wide, worth 15¢. per fathom. Bright's stope, in back of this level, is set to two men, at 33s. per fm.; the lode is worth 9¢. per fm. Floyd's stope, in back of the 12, is set to two men, at 35s. per fm.; the lode is 2 ft. wide, worth 4¢. per fm. for copper ore. The 12 end, east of Bennett's shaft, is set to two men, at 23s. 6. fm.; the lode is 4 ft. wide, worth 7¢. per fm. We are getting well on with the surface work.

**DEVON GREAT COALS**.—Isaac Richards, April 3: Wheel Emma: New shaft, New South Lode. In the 205 east the lode, part carrying 4 ft. wide, comes to yield a little good quality copper ore and 3 tons of mundle per fathom. **Railway Shaft**: In this shaft sinking below the 205 the ground is of a conchoidal nature for the production of mineral, and tolerably favourable for prospecting. In the 205 west the lode, 2½ ft. wide being carried, is of a promising character, and yields a little of both copper and mundle ore. In the east the lode, 2½ ft. wide, composed of apatite and quartz, with peach and a little good quality mundle and mundle ore; seeing that we have a length of many hundreds of fathoms of unexplored ground before us in this direction, parallel to which our best courses of ore on the main lode have been found, and the strata also being similar in character, I consider that our chances of meeting with discoveries on this lode, which for many years has proved so productive in Wheel Emma, are very good.—Watson's: In the 112, east of the engine-shaft, the lode is 4 ft. wide, and carries a little good quality copper ore and mundle ore. In the 112, west of the engine-shaft, the lode is 4 ft. wide, of a promising character, and is yielding 2 tons of copper and mundle ore per fathom.

**DEVON GREAT UNED.**—Isaac Richards, April 3: In the 120, east of Willesford's shaft, the lode has improved. It is 4½ ft. wide, composed of capel and quartz, with peach, prun, some good quality muncie, and is yielding 1 ton of copper per month. The lode is also improved in the 120, west of Willesford's shaft, the lode is also improved, being 3½ ft. wide, and worth for length of rise (3 ft.) 3 tons of copper ore per fathom. In the 120, west of Willesford's shaft, the lode is also improved, being 3½ ft. wide, and worth for length of rise (3 ft.) 3 tons of copper ore per fathom. In the 80, west of Watson's shaft on the Middle lode, the lode is 3 ft. wide, yielding good stones of copper and muncie ore, and from its general character improvement in this direction may also fairly be looked for.

se, level, to drive w/ engine-shaft, by four men, at 4. 10s. pr fathom. rise in back of 40 fm. level, west of engine-shaft, by six men, at 5. 5s. per hom. A winze to sink below the shallow add against said rise by six men, at per fathom. The shallow add, to drive south of Great Gunns, by four men, at 4. 10s. per fathom. A stop in back of 50 fm. level, east of Matthew's shaft, by six men, at 3s. per fathom. A pitch in back of 50 fm. level to eight men, at 10s. in in of 90. A pitch in back of 10s. level to eight men, at 10s. in in of 90. m. level to four men, at 10s. A pitch in back of deep a lift to four men, at 10s. A pitch in back of deep add to eight men, at 10s. A pitch in back of m. level to four men, at 10s. A pitch in back of shallow add to five men, at 10s. We have six men putting air-pipes from deep add to 90 fm. level west, so

**PUSH FORWARD THIS WEEK**—We are means of road-drills, which can be at work here until the end of this week. Our tribulation is ending at a standard of 100 ft. per day. The black tin is increasing our number of tribulation. We shall continue to do so as suitable men apply. We sold on March 28 10 tons 2 qrs. 5 lbs. of black tin, and expect to sell a larger quantity for next 2 weeks.

**EAST BLUE HILLS.**—S. Bennetta, W. K. Mitchell, April 2: A few days since met with such an increase of water in the shaft as to prevent any further mining until drained by the engine, which is now in position and underground for 3 or 4 days, prior to its being again set to work. The two shafts are now at work are worth \$4. and \$6. per ton respectively. We sell on day another parcel of tin.

**ACT CARADON.**—V George, April 3: Having fixed air-pipes in the 130 we enabled to put a pair of men to open on the branches intersected, which are in the 120. The air, pressing out, has extended through a very favourable channel of ground, and letting out the more water. There is no other change to notice.

**DAVE DARRIN.**—Thomas Garland, April 2: The 32 end west is all in lode containing stones of blende and lead ore, but not sufficient to value. The lode is 10 ft. wide, and the lead ore is 10 ft. thick. The 32 end west is 4 ft. thick, which has disordered the lode. In the stope over the 92 west the lode is 4 ft. thick, yielding 1 ton of lead ore per fathom. In the stope over the 80 west the lode is 5 ft. wide, falling off in produce, now yielding 12 cwt. of lead ore per fathom. The stope and lode are progressing steadily, and we would value the (Chick) 25 tons of lead ore.

PORTLAND.—R. Couch, March 1: In the bottom level, in the 30 east, the lode is in fine, and will produce from 25 to 30 cwt. of blende per fathom. The conditions in the north part of the lode in this level are also much improved for the purpose of drawing. The dip-road and the drawing machine have both been placed in good working order.

AWTON.—G. Rowe, March 29: All the points in operation throughout the mine continue without change to notice since last week's report, and all our work at surface is being pushed on with dispatch.

At the 24 level, the lode is 10 to 12 ft. wide, and runs to drive east, by six men, at 100 ft. per fathom; lode large, and producing some good stones of copper ore, and some of arsenical muddle per fathom. The 95, to drive east, by six men, at 127 ft. per fathom; the lode here is improving, and will yield 5 tons of arsenical muddle per fathom.

one per fathom and time good stones or copper ore. No. 1, in back of 105 ditto, by four men, at 6 $\frac{1}{2}$  p. fathom. No. 2, in back of 117 ditto, by six men, at 6 $\frac{1}{2}$  p. fathom. No. 1 rise, in back of 105 ditto, by four men, at 13 $\frac{1}{2}$  p. fathom. No. 1, in back of 105 ditto, by four men, at 5 $\frac{1}{2}$  s. p. fathom. No. 2, in back of 105 ditto, by four men, at 5 $\frac{1}{2}$  p. fathom. No. 1 rise, in back of 82 west, to four men, at 4 $\frac{1}{2}$  p. fathom. No. 1, in back of 82 east, to four men, at 4 $\frac{1}{2}$  p. fathom. No. 1, in back of 70 ditto, to four men, at 4 $\frac{1}{2}$  p. fathom. Our stopes and shaft will yield on an average about 9 tons of arsenical muncle each per fathom, a little copper ore. Every effort is being made to bring our four weekly runs of arsenic out up to 100 tons, which, with a little copper ore, we shall be able to sell, will leave some profit to the shareholders. On the whole we are of our prospects of success very favourable.

**DODDEREVE.**—B. Knott, April 2: In the adit east the part of the lode that for 7 ft. wide continues to present the same favourable indications as for some time past. This drive is opening up ground that will pay for stoping,

satisfactory returns will be made. We shall sell a parcel of tin next week.

**GREAT HOLWAY.**—W. T. Harris, April 3: Roskill's Shaft: The 95 north has been extended 3 fms. 4 ft. 6 in. No material change has taken place in the character of the ground, and good stones of lead are found in the lode. The general appearance of the forecastuff gives great encouragement for continuing the driving in the junction. Set to four men, at 80 per fathom.—Level Engine-Shaft: In the 92 level east the lode is 1½ ton of lead containing 100 lbs. of silver, yielding quantities. In the pitch in the back of this level the lead is producing 10 cwt. of lead and 1 ton of blende per fathom. Set to four men, at 120s. and 45s. per ton respectively. The 60 west No. 4 in back is at present driving, to communicate with No. 1 pitch, and when effected will facilitate operations very considerably. Set to four men, at 120s. per fathom, the lode yielding 15 cwt. of lead and 1 ton blende per fathom.—Tribute: No. 1 pitch in back of this level is yielding 4 tons of lead and 1½ ton of blende per fathom. Set to 12 men, at 50s. and 30s. per ton respectively. No. 2 pitch west maintains the same value as reported in my last—4½ tons of lead and 1½ ton of blende per fathom. Reset to 12 men, at 40s. per ton the first, and 30s. per ton the latter. No. 3 pitch in bottom of this level is producing 15 cwt. of lead and 1 ton of blende per fathom. Set to six men, at 100s. and 40s. per ton respectively. No. 5 pitch in bottom is worth 15 cwt. of lead and 1½ ton of blende per fathom. Set to six men, at 100s. and 40s. per ton respectively. No. 6 pitch in the back of this level is producing 15 cwt. of lead and 1 ton of blende. Reset to four men, at 120s. per ton the former and 40s. per ton the latter. No. 9 pitch in the bottom of this level is worth 10 cwt. of lead and 1½ ton of blende per fathom. Reset to six men at 120s. and 40s. per ton respectively. No. 10 pitch in back is producing 1½ ton of lead and 1 ton of blende per fathom. Taken by six men, at 57. per ton and 40s. per ton respectively.—Brammoch's Shaft: In the 60 east the improvement reported in the pitch in the bottom of this level is maintained and is now producing 1½ ton of lead and 1 ton of blende per fathom, and which is very promising. Taken by four men, at 120s. per ton the former and 40s. per ton the latter. No. 1 pitch in back of this level is yielding 10 cwt. of lead and 1 ton of blende per fathom. Set to four men, at 120s. and 45s. per ton respectively.—Office Shaft: The 60 west pitch in back is worth 10 cwt. of lead and 1 ton blende per fathom; reset to four men at 120s. and 45s. per ton respectively. The machinery is in sound condition, and continues to work admirably. Dressing making usual progress. Have sold 8 tons 17 cwt. lead and 38 tons of blende, realising 8677. 19s. 10d.

**HINGSTON DOWNS.**—F. Richards, April 1: In the 52, east of the engine-shaft, the lode in its general character continues unchanged, and is producing apat, quartz, mundic, &c., with a little copper ore intermixed. This level is now getting in under the most promising part of the lode seen in the level above, the south cross-cut towards the No. 2 lode is extended 20 ft.; the ground in the present end has much the same appearance, and fair progress is being made.

**KIT HILL GREAT CONSOLES.**—Isaac Richards, April 3: In the Tunnel level the ground is without important alteration, and the distance driven during the past week is 2 fms. 1 ft.—North Engine Shaft: In the north engine shaft, sinking below the 85 fm. level the lode is of large size—8 ft. wide, and of an exceedingly promising character, and is yielding good stones of tin. In the 86 fathom level east, the lode is from 4 to 6 ft. wide, composed of rapel and quartz, with peach, mummy, blende, and good stones of tin ore. The indications of tin ore here are also of a most encouraging nature.

**ANGELYEIN (the River).** April 3: There is nothing to be seen here.

**LA LANGLEY LN.**—Wm. Evans, April 3: There is nothing new to note here, the mine continuing to make fresh reserves, and looking remarkably well.

**MARKS VALLEY.**—Wm. George, Francis Renais, April 3: Wheel Jenkin: a again handing you our monthly report we beg to say that during the past month a 25 ft cross-section extended farther north than the Birmingham lode 2 fms. 5 ft. About 2 fms. of this driftage has been through the colliery to the lode, which is yielding low-class tinstuff, but judging from the continued strong flow of water from the end, and the ground driven through in the wet over; we are daily inspecting an improvement. Three stops are being worked above the 15 by four men in each; the portion of the lode carried (about 7ms. wide) maintains its former value, and from which we are enabled to keep 24 heads of stamps fully supplied at the present rate we are able to drive men, which we consider is only about two-thirds of what they would be driven pumping gear had not been attached. The dressing operations are progressing satisfactorily considering the rough weather we have had to contend with, and we hope to tell about the new shaft in next week's report. The taking up of the new shaft will have been completed this week, after which we shall have over and make the shaft secure.

**MELLANEAR.**—John Gilbert, April 2: We have met with a cross branch out 1 ft. wide in the 35 cross-cut north of Gundry's shaft. It is composed of ar. sulphur, pyrite and spots of copper ore. The ground is still very hard for driving. The men are making good progress in driving the 75 cross-cut north from the main lode. The end is wetter than I have ever seen it before, and the rock is looking promising for the production of mineral. The lode in the 100, west of Gundry's shaft, is 16 ft. wide, and yielding 2½ tons of pyrite ore per fathom. The best of the lode is on the south wall. The rise in the back of the 110, west of shaft, is yielding 2 tons of copper ore per fathom and some saving work for tin. In the 110, driving east of shaft, the lode is 4 ft. wide, and yielding 2 tons of copper ore per fathom; nearly all the remainder of the lode is composed of sulphurous muncie. The lode in the 120, east of shaft, is 4 ft. wide, yielding 2½ tons of ore per fathom, and the ground is easy for working. We have cut through the south part of the lode in the 120, west of shaft. The lode averaged 16 ft. wide, and yielding 2½ tons of ore per fathom. The rise in the back of this level is yielding 3 tons of ore per fathom. The lode in Gundry's engine-shaft, sinking below the 120, is 4½ ft. wide, and yielding 2 tons of ore per fathom. The other parts of the mine are just the same as when last reported.

At the NEW COPPER, J. Neill, March 29: A Shaft: The pumping machinery was been continuously at work, keeping at 54 revolutions per minute, and the water is now 1 ft. above the bottom of the 80. The influx of water has abated little.—C Shaft: The shaftmen are engaged (nine) in driving with rock-drill at 50 east, which has extended this week 1 fm. 2 ft., and intersected an oblique line, in which from its position, bearing, and underlie, I believe to be the slide. It is very much contracted and compressed, and is composed of a mass of thin layers of quartz sprangled with ore and muddle. Owing to the hard nature of the rock I intend to cross-cut a little distance north expecting to intersect more favourable strata on which to extend the drirage east more rapidly than we can at present course. The stops in back of cross-cut north from the 59 east, worked by two men and two boys with occasional assistance from three men from the A shaft has improved a little in the yield of ore and is now equal to 100 cubic ft. of lathum.

At the NEW CARADON.—N. Richards, April 2: Most of the 20 have been cleared,

**NEW GARADON.**—N. Richards, April 2: No. 20 lode, on which we are working, has been cut at the 20' level. The lodes have been laid out, which are large, producing a little copper ore, but not sufficient to value, and as I before stated no lode has been cut at the 30'. We hope to reach the 40' the latter part of this week or early next week.

**NEW TERRAS.**—B. Eade, April 3: We have struck our main lode in the bottom cross-cut, at the engine shaft, and it is from 3 to 4 ft. wide, composed of quartz, oxide of iron, and tin, and promises to be a productive lode. This is the first lode on the latter; in fact, the whole mass for 30 ft. wide or more, becomes mineraliferous at the intersection. This has been proved in the winze sinking in the level above, with which we hope to communicate before the week is out. The men in the deep adit are going on satisfactorily with that level. The benches in the shallow adit are about the same as last reported. The shafts and all the other machinery are working well, and we hope to give the buddies a good start in the coming week.

**NEW WEST GARADON.**—N. Richards, April 2: No. 5 lode, on which we are

**W. W. WEST CARANUS.**—N. Kienast, April 12: 20<sup>th</sup>, 5 lbs; on W. side of Halle's cross-course at the 35 ft. level, is about 20 in. wide, producing long roots for 10 ft. A promising looking lode. No. 6 lode at the east of cross-course, is small and the ground getting harder. If it does improve against the mens' stent is out we shall suspend it and resume the mining of the cross-out south at this level, as it is important that this ground could be proved by cross-cutting.

**NORTH BLUE HILLS.**—S. Bennett, April 2: The men are now engaged in clearing out a sort of shallow adit on the lode, which produced some excellent stuff many years since, but being on the then boundary of the sett not much was done on it.

**REPORTS BY MEMBERS OF THE ASSOCIATION.**—March 31. Were pleased to

LAB SHEPHERDS—J. Nancarrow, J. Nancarrow, March 31: We are pleased to be able to inform you that we have sent down our small drop-lift 2 fms. below 102, and put same to work to-day. We shall now proceed to the bottom with this drop-lift, and, during this interruption, also clear the 102 west, where we shall soon get into the good ground already discovered. There is no change of opinion as to the value of the pitch since our last. The two parcels of copper ore are sold to Messrs. Will, Druse, and Co., and will be sent away to-morrow. All surface operations are going on as usual, and the machinery working well.

DEPT. TOR.—H. Hulford, J. Rodda, April 3: The part of the north lode car-

**NEW YORK**.—H. Burro, J. Schulz, and J. A. Harris, are sinking the northeastern shaft, is looking better, and is producing good lots of copper ore. The lode in the 90 east has good indications, being composed of apatite, quartz, peat, and munda, intermixed with tin ore. We pushing on the cross-cut south in this level to cut the south lode, the ground which is congenial for mineral and favourable for driving. The cross-cut in the 90, and north of No. 1 winze, has passed through two branches, containing apatite, peat, and sulphur munda, and produced a fine appearance of tin ore, but we are not sure of it. Nothing else fresh to report.

**POLVERO**.—Wm. Vivian, April 3: We have cleared the adit level up to the engine-shaft. We shall now commence to clear the engine-shaft from surface to the adit level. We have six tribute pitches at work, producing their usual output of tin.

**POLCREBO**.—W. H. Martin, April 3: In the 43 east and the 20 east cross-roads, driving to intersect the north lode, the ground is much harder than I anticipated, however the men are doing good labour. In the 30 east the lode is



showing signs of an improvement, and letting out more water. It must be borne in mind that the late discoveries both east and west and the north lode at the 30 are still standing intact, and the men are developing on new points to intersect the north lode nearer Highburrow shaft.

**POLBREEZE.**—W. Bennett, April 2: In the past week we have made good progress with our underground workings. We have cut the south part of the lode in the western cross-cut, and I am pleased to say it is of a most kindly description, and shows an improvement in its composition upon what it was to the east of the shaft. It is 2 ft. wide, composed chiefly of peach and spar, and contains tin, and it has all the characteristics one could desire in a tin lode. We shall now drive west on it as fast as possible; it looks as though it would get larger in that direction. The lode in the 122 east is 3 ft. wide, yielding saving well for tin. The lode in the 112 east is 3 ft. wide, composed of mudi, peach, &c., and producing a little tin.

**PRINCE OF WALES.**—S. Roberts, April 2: The men in both the 102 ends east and west are driving by the side of the lode, consequently there is no change here to report. The lode in the back of the 102 west, east of rise, is 5 ft. wide, worth 77 per fathom for tin. Lode in stope, west of rise, is 4 ft. wide, worth 2 tons of copper ore and 44 per fathom for tin. Lode in No. 2 stope, west of rise, is 5 ft. wide, worth 2 tons of copper ore and 44 per fathom for tin. The men are still driving in the new silver lode (which is unchanged the last week), leaving the main lode standing south. We intend blasting it down next week. In the winze sinking by the side of the lode in the bottom of this level air progress is being made.

**ROMAN GRAVELS.**—Arthur Waters and Son, April 3: The ends and stopes throughout the mine are quite up to late valuations. We have to day sampled a parcel of blende (computed) 30 tons for sale next week.

**RUSSELL UNITED.**—John Bray, April 3: The lode in Matthew's engine-shaft, sinking below the 97 ft. level, is 3 ft. wide, composed of prlan, peach, quartz, with small portions of copper and mudi. Stephen's Engine-shaft: We are pushing on the cross-cut south at the 45 ft. level with all possible speed in good channel of mineralised ground, which looks well for the lode when intersected.

**SOUTH CONDURROW.**—Wm. Rich, Wm. Williams, H. King, April 2: In the 2, west of Marshall's shaft, the ground is favourable for driving towards the south part of the lode. The 66 end west is in a strong kindly lode, worth 75 per fathom, and a good ground for working. The 73 end west is unproductive. We hope to hole the lode sinking below this level in a few days. The stope in the back of the 73, east of shaft, is worth 121 per fathom. The 93 end west is in elvan; the lode carries a little tin, but not enough to value. The stope in the back of the 93, east of King's shaft, is worth 151 per fathom. The lode in the 80 end east yields low quality tinstone. The stope in the back is worth 101 per fathom. The 80 end, west of Plantation, is unproductive. The ground is favourable in the 80 cross-cut north towards the copper lode. The 70 end, east of King's, is worth 71 per fathom. The stope in the back is worth 101 per fathom. The 60 end east is worth 91 per fathom. The stope in the back of this level is worth 151 per fth. The 50 end east is worth 121 per fathom. The stope in the back of the 50 is worth 121 per fathom. The 40 end east is worth 101 per fathom. The 30 end west is poor; the lode is disordered in this end, but the ground is easy, and we hope the lode will soon become more settled. The 20 end east is worth 71 per fathom. Two stopes in the back of this level are worth 101 per fathom each.

**SOUTH DARE.**—J. Mitchell, April 3: We are pleased to say the 130 west continues to look well, the lode is very wide, and worth fully 1½ ton of silver-lead ore per fathom. We have not been able to break much ground in the eastern end of this level as we have the water in, owing to a shortness of water to keep the pumping-wheel going at a good speed. There is not any particular change in the stope. Drawing and dressing are going on regularly. We shall sample 30 tons of silver lead ore on Saturday, for sale on April 11.

**SOUTH DEVON UNITED.**—William Hooper, April 3: I am pleased to say the lode in the 120, west of Martin's shaft, is fully 1½ ft. wide, of very promising description, worth 141 per fth. Believing more lode to be standing north, we have put the men to drive in that direction, for the proof of the same; driven west during the past week 4 ft. 6 in. The ground in the eastern end of the above shaft, in the 120, is again more settled. In driving north we have met with a branch about 1 ft. wide, containing mudi and copper ore, but not to value; driven during the past week north 2 ft., east 4 ft. The lode in the adit level, west of old sump-shaft, is 5 ft. wide, producing gossan, spar, rich stones of mudi, and copper ore. We sample on Monday next (computed) 110 tons of copper ore.

**SOUTH TOLCARNE.**—T. Angove, Samuel Arthur, April 2: Fraser's Lode: In the 80, west of engine-shaft, we are making good progress in driving, the lode being worth for tin 61 per fathom. We have holed the rise in back of this level, west of shaft, to the 70 ft. level. We are now stopping it at 15s. per fathom, worth fully 71 per fathom. The stope in the back of the 70, 60, and 50, east and west of shaft, are producing their usual quantities of tin, worth respectively 51, 41, and 31 per fathom. The lode in the 24 ft. level, east of shaft, is a cross-cut, is a squeezed a little smaller, producing good quality tinstone. We hope to have a good improvement here soon. The lode in the winze below the 12 continues to be worth 301 per fathom.—Gossan Lode: The lode in the 24, east of shaft, east of winze, is worth for tin and copper 51 per fth. The lode in the 24, west of winze, is worth for tin and copper 31 per fathom. The lode in the rise in the 35, east of winze, east of shaft, is producing good dressing-work for tin. The tribute pit for this lode, for copper, are looking fairly well. Our copper stamping mill will advise you of our next.

**SOUTH WHEAL FRANOES.**—Charles Craze, April 2: There is no change throughout the mine to note since our meeting. The mine on the whole is looking quite as well, and our returns of tin at present quite as much as they were for the last few weeks before the account. At the 53, Daubuz's, good speed is being made in driving, and we expect to cut the lode some time in next week. The mine is in for k, and the machinery and pitwork working well.

**TANKERVILLE GREEN CONSOLES.**—Arthur Waters and Son, April 2: There is nothing new worthy of remark since the date of our full report of March 26 last. We have reduced our staff in the whole of the mines, and every effort is being made to keep expenses down and to try and make both ends meet. We have to-day sold 20 tons lead ore from the Bag Mine for 131s., and sampled 50 tons from Pennerley, and 30 tons from Tankerville, for sale next week.

**TRESEAVAN.**—J. Prisk, W. Edwards, March 31: Engine-shaft: Everything is being carried on in the usual way for draining the mine, but the men are at present engaged in driving the lode for the purpose of taking up the water. This will be pushed on as fast as possible, and when complete the mine will be drained more rapidly. The 90 in. engine is in excellent condition and working well.

**WARDALE.**—James Blenkins, March 29: Burtree Pasture, Donaldson Level: The vein is looking more kindly with more floor-spar. The matrix is more mineralised, and generally better looking. There is no ore yet to value. I trust shortly to report an improvement in this end; the vein is 5 ft. wide, but ground very compact and hard. There is a slight improvement in stope over Milburn's level, but with no material change; value of ground for ore, from 13 cwt. to 25 cwt. per fathom. We purpose setting contracts for the quarter on Tuesday next, and will forward setting list in due course.—Greenlaw: The drift above Jackson's level is looking more promising in great limestone. The vein is 3 ft. wide, composed of spar and rider, and mixed with ore, worth 6 cwt. per fathom. In Watson's air-drift, above the middle level, the men are making fair progress, chiefly in plate and grey beds, quick; but no ore to value. In Lowe's drift east the vein is looking more kindly, 3 ft. wide, composed of spar and rider, but no ore at present to value. This end is close up to where the rise in the Quarry level; we purpose suspending the same until communication is made. In Quarry level the air-rise is up nearly 6 ft. 1 in.; we have about 4 fms. yet to rise. The men lost the vein in plate, having flatted a little; they cut into vein again last Friday. We hope to make better progress now, and will sink as far as we can for water from Lowe's drift to meet the rise. In Forster's rise a part of the vein has been found under hazel, where the hitch took place, but it is evidently split; we are, however, cutting north to prove same. Bowers Rise, Don't Level: We hope to communicate to air, or middle, drift within a few days; the vein is a little improved for ore, worth 5 cwt. per fathom; ventilation bad. There is not much change in tribute pitches. A little more promising, if anything. I will send more particulars with the setting-sheet or list; valuations will run generally from 12 to 32 cwt. per fathom.—Kil hope, Killhope Head Vein: The Coal Sill drift east has further improved. The vein is 2 ft. wide, and worth 35 cwt. per fathom, with prospects promising, but ground fluctuating; this is a very interesting point. We are now beyond where the vein ceased bearing in great limestone below.—Trent Level West: The end is hard, and letting out water. From stope ahead we are pushing forward as fast as possible, and hope soon to communicate with sump. The rise into top silts is now in low slate silts, within 8 or 9 fms. of surface; we purpose sinking shaft to meet same.—Old Moss: In winze ring the carpenter and woodmen are securing roof and timbering same drift for ropes, &c., holed to shaft or sump top. We expect whinsey to-morrow; shall push same to completion as quickly as possible. In east level we purpose stopping, and commencing one or two new lengths, so as to be ready to stop when whinsey is completed; we have as many men as can work to advantage until that is done. We shall resume the driving on east level as soon as practicable. Emmerston's stope, east from cross-cut, is worth 37 cwt. per fathom. The west level in Old Moss vein is split into two or more branches; in plate it may be more gathered; in silts above, one or two leads off to the south side, stope west from cross-cut (Elliott's poor, not worth more than 27 cwt. per fathom). Two stopes in Killhope head vein poor; suspended, not payable, remainder looking fairly well, worth from 16 to 30 cwt. per fathom.—Grave Rake: In main level the Rake vein is not looking so well as last week; worth 8 to 16 cwt. per fathom; matrix looking kindly, and I think will soon improve again for ore.—Middle Drift East: Strong fluor spar, but coarse, and without ore to value. In part driven on we expect there will be payable ground to the side; but we must push this end away to lay same open for stopping and ventilating the mine. Cross-cut north from main level is now in silts beds, dipping very fast, which we think denotes a vein near. Kidd's sump in Green Clough vein is suspended on account of being so heavily watered, and having decided to prove same from water level adit. There is change to note in general appearance of stope, except that they have slightly improved. We purpose setting four men to assist woodmen in clearing and repairing water level, and pushing forward same to Green Clough. Bolt's Burn, Coal Sill drift is looking promising; the vein is from 2 to 3 ft. wide, composed of kindly spar, and worth 30 cwt. of ore per fathom. At Brandon Walls the pumping is going on regularly; water lowered 12 fms.

**WESTMINSTER CONSOLS.**—J. Woolcock, March 25: Men sinking No. 1 shaft in the old man's sett. We have an exceedingly promising lode, but not so much ore as I would expect from such a lode as we now have. I purpose sinking 2 yards more, then drive north and south on the course of the lode. In both these drivings we may meet with a large course of ore any day. The matrix is such that it cannot fail to produce ore, and moreover, we have found in both drivings above, the ore going down, our drivings will come under those workings, consequently we shall meet with this ore. There is no fear as to the result of the mine. Look out for a startling discovery when we begin to drive, which will be in about two weeks hence.

**WEST CARADON.**—N. Richards, April 2: The branch we are rising on south of Jope's lode at the 38 is slightly improved since my last, and will now yield from 1 to 1 ton of copper ore per fathom, and appears to be making away west. The rise and the stope in the back of the adit level on Gilpin's lode are yielding together about their usual quantity of copper ore—½ tons per fathom. A stope in the bottom of this level will yield 1 ton of ore per fathom. The rise in the back of the midway level, on this lode, will yield fully 1 ton of good ore per fathom.

**WEST CREBOR.**—J. Andrews, April 2: The lode in the engine-shaft sinking below the 85 is 3 ft. wide, composed principally of quartz, capel, and mudi, with occasional stones of copper ore. The lode in the 80 west is 6 to 7 ft. wide, but the south part as to make better progress in driving.

**WEST GODOLEPHIN.**—T. Hodge, Francis Hodge, April 2: The 40 and 50 on Pink lode are holding out good promise, producing fair quality tinstone. In the other bargains there is no change since our last.

**WEST POLBREEZE.**—Wm. Vivian, April 3: In the 40 driving west the lode is producing good stones of tin, but not to value. The water is going down in the engine shaft. I hope to resume the sinking again in a few days.

**WEST PATELEY BRIDGE.**—David Williams, April 3: We have reached the main lode in the south cross-cut from bottom of east Grassington shaft, within the time specified in my report; and so far as seen into, the lode is all that can be desired, being 3 ft. wide, and filled with limestone, gossan, and rich stones of lead ore, and have commenced drivages both ways upon its course. The cost-sheet will be sent you on Monday or Tuesday at the latest, by which time I hope to be able to write you to more length, and that we shall have commenced drawing ore to surface. I am, however, so pleased with the general appearance and character of the lode, that I have commenced preparations for laying out dressing-floors, of course on a small scale to begin with, and gradually increased as required.

**WEST WHEAL PEEVOR.**—W. T. White, April 3: The new lode now being opened on which was recently cut in the 36 cross-cut south is looking more promising as we drive east and west on it. We only commenced to drive on this on Monday, consequently the distance yet that we have opened is small, but sufficient for us to say by a vigorous development we believe it will be found productive. It is now producing both tin and copper. In Wheal Peevor we have met with a new lode, north of our engine-shaft, which is a productive tin lode. This we shall also see in this mine by the continuation of the 48 cross-cut. We are now driving to cut the old north lode, which we hope to reach in about two months hence. This we certainly consider to be an exceedingly good point. We are also pushing on the driving of the 60 cross-cut south. There is no particular change in the lode in the 48 and 60 fms. levels end driving west, but from the nature of the ground we believe there will be soon.

**WHEAL EAST.**—W. O. Trevena, March 31: I beg to hand you our setting report of Saturday last.—Lyle's engine shaftmen are employed in cutting the top and bottom pits in the 180, which we hope to complete by the end of this month. The 170 is being driven west of the cross-cut, by six men, at 131 per fathom, where the lode has a promising appearance, and worth for tin 101 per fathom. A stope working behind this end, by six men, at 31 per fathom, is worth for tin 121 per fathom. The 160 is driving west of cross-cut, by six men, at 121 per fathom, and worth for tin 101 per fathom. The rise going up behind this end is worth for tin 101 per fathom, and rising by six men, at 81 per fth. A stope in this level is worth for tin 121 per fathom, and stopping by six men, at 6s. per ton of stuff. A winze sinking below the 150, west of cross-cut, is worth for tin 121 per fathom, and sinking by six men, at 81 per fathom. The stope in this level, east and west of rise, is worth for tin 121 per fathom, and stopping by six men, at 6s. per ton of stuff. The 137 is being driven west of cross-cut, by six men, at 71. 10s. per fathom, and lode worth for tin 101 per fathom. The 112 is driving west of the cross-cut, by six men, at 81 per fathom; this end has very much improved in the last few days, and is worth for tin 151 per fathom. The rise above this level is worth for tin 101 per fathom, and rising by two men, at 41 per fathom and 6s. per ton of stuff. There are seven stope working in this level (the 112), by 27 men, at 5s. 3d. per ton, and worth on an average 91. 10s. per fathom. We have 37 tributaries working throughout the mine, on tributaries varying from 9s. 6d. to 13s. 4d. in 11. Tin sold for last month 20 tons 16 cwt. 0 qrs. 17 lbs., at 49s. 7d. 6d.

**WHEAL EAST.**—J. Boys, March 29: The shaftmen have completed the work at the 80, and are now fixing the plunger-lift from the 80 to the 45. We have crossed the lode in the 80, east of shaft; it is a large mineral lode, rich in mudi, mixed with iron, quartz, and a little copper. The 25 cross-cut south towards Forman's lode ground is much the same as last reported; the underlie of the lode must be going off from us, otherwise we should have reached it by this time. We are cutting through the lode left in the side of the 25, and find tin and copper of good quality; we like the nature of the lode very much.

**WHEAL COATES.**—Wm. Vivian, April 3: In the cross-cut driving south of engine-shaft to intersect the West Kitty lode the ground is more favourable for driving, and good progress is being made at this point. The 40 driving west, continues to produce some good copper ore. We have commenced to put up a rise in the back of the 80; this point is also producing some good copper ore. Our tribute ground at the 70 ft. level continues to produce its usual quantity of copper.

**WHEAL CREBOR.**—H. Phillips, P. D. Holman, April 1: The lode in the new shaft sinking below the 144 continues to carry mudi, spotted with copper ore. Good progress is being made in driving the 144, east of new shaft, to communicate with the lode in the 80, east of shaft; it is a large mineral lode, rich in mudi, mixed with iron, quartz, and a little copper. The 25 cross-cut south towards Forman's lode ground is much the same as last reported; the underlie of the lode must be going off from us, otherwise we should have reached it by this time. We are cutting through the lode left in the side of the 25, and find tin and copper of good quality; we like the nature of the lode very much.

**WHEAL GRENVILLE.**—T. Hodge, April 3: I have been all through the mine to-day, and I see no change in either of the bargains worthy of any note since my last.

**WHEAL JANE.**—Richard Southey, April 3: Since my last good progress is being made in driving the 40 end west on the great flat lode; the lode is fully 10 ft. wide, and although it is at present producing low quality tinstuff, I have good reason to believe that ere long a more productive lode will be met with. All the stope and ends on the Ready Money lode are of just the same value as when last reported on. Our machinery is working well both at surface and underground, and a large amount of low quality tinstone is being daily passed through the stamps and treated in the most economical manner with the jiggers. I am pleased also to state the present mode of treating tin ore surpasses anything that ever came under my notice both in efficiency and economy, and it has put this mine in such a position that very low quality stuff which used to entail a very serious loss can now be made to pay its way; therefore, with a slight increase in the quality or in the price of tin we shall at once be brought into a profitable state.

**TOLIMA MINING COMPANY.**—Advices received by the mail of March 29, of which the following is an abstract:—

Frias January returns .....	\$67,620.0
" " cost .....	33,272.8
Profit .....	\$34,347.2
Less capital expenditure .....	1,211.2
Net (estimated) profit .....	\$33,136.0
Equal in sterling to 55217. 18s. 4d.	

The underground report shows .....

of ground expended, of which .....	103	2	2
were productive, leaving of unproductive ground .....	83	4	9
	13	3	6

The superintendent states that the invoices represent 173 tons of export ore of an average yield of 28½ ozs. per ton, and adds that it is a source of satisfaction to have commenced the new year with the largest invoice and profits ever obtained in any one month from Frias by this company. He continues:—I am pleased to have to report uniformly satisfactory and encouraging appearances throughout the mine. The western section in the 60 and 70 shows an improvement. The lode may be said to present a very satisfactory appearance, not only as regards our immediate returns, but as respects our future prospects.

**THE ENGINE-SHAFT.**—The vein maintains its full size and strength, if anything it is more compact and concentrated between the walls. There is no improvement to report in yield, the only ore present being small quantities of pyrites and blende in ramifying strings intersecting the quartz and schist forming the chief constituents of the lode.

**80 EAST.**—The vein is the full width of the drive, and is composed of quartz, schist, and flookan, interspersed with strings of pyrites and galena, and carrying grey silver, the yield being estimated at from 10 to 15 cwt. of 230 ozs. ore per fathom. This end has communicated with the drive west from Leon's winze projected to meet it. The driving eastward from this winze will now be continued with all possible speed through Rogers' winze and into the eastern ore section under the 70.

**80 WEST.**—The vein is from 10 to 12 ft. wide, composed of schist and quartz impregnated with pyrites, and letting out much water. The lode having been stripped down to its full width the driving will be continued westward.

**70 EAST.**—The end itself has fluctuated considerably, yielding at times from 1 to 2 in. of ore, and frequently becoming quite poor. The lode is mainly composed of dark-coloured schists and quartz strings, and is of considerable size. The full width is not yet proved, as also the yielding capabilities of the north portion of lode by the cross-cut being driven through it. This cross-cut is started about 58 ft. east of shaft, and after penetrating the main lode will be carried northwards to Welton's vein, which, judging from appearances in the 80 east, should be found rich at the 70. In reference to the productivity of the main vein at the 70 east, the main ore shoot appears to be skimming the roof of our level on a very flat easterly dip, and we should expect the level itself to penetrate the heart of this mineral as the driving is extended eastwards on the vein at the 70 at a point 8 fms. west from the present end, however, a strong branch of ore and vein standing on the north side of the level is being stripped down.

**70 WEST.**—A considerable improvement has taken place in the drive, the vein is fully 6 ft. wide, strong and kindly, the north portion of the lode being laced with strings of galena.

**70 NORTH CROSS-OUT EAST.**—At a distance of about 50 ft., north of main level, a branch of vein, carrying small portions of galena has been intersected. The cross-cut is not yet driven the required distance to cut Welton's lode. The bearing of the intersected branch is north, 67 west, with a dip to the north-east of 65.

**ROGERS'S 70 EAST WINZE.**—This has been sunk 5 fms. under the 70. The vein is 5 ft. in width. The footwall is more vertical than previously, which we considered a good indication, and it carries from 1 to 2 in. of ore. Overlying this is a 10 in. branch of flookan carrying pyrites; the rest of the lode consisting of black schist and quartz.

**70 BACK STOPES.**—The No. 1 stope, east of shaft, yield from 25 to 30 cwt. of exports ore per fathom. The No. 3 (easternmost) stope yield from 2 to 3 tons per cubic fathom of average class ore. In the high breast, where the vein is from 14 to 15 in. wide, this yield will be exceeded.

**60 FRIAS EAST.**—The lode above the eastern end of the drive has holed into the Esperanza shaft sunk towards it. The vein is somewhat broken and

disordered in its character, and from the sole of the 60 upwards is quite poor. The sinking of this shaft will be continued with all possible dispatch towards the 70 and deeper levels with the object of penetrating the great ore course in its eastern dip.

**60 FM. BONANZA STOPES.**—The total width of vein opened upon is from 20 to 21 ft. from wall to wall. Its section is as follows:—Lying upon the width or south wall of the lode there exists a 12 in. almost solid branch of mineral, principally argenteriferous blende, carrying free red silver. Adjacent to this there is a poor section from 12 to 13 ft. thick of vein matter, chiefly schist and quartz, and almost devoid of mineral. This is succeeded by a magnificent course of ore from 3 to 4 ft. wide, consisting of argenteriferous galena, blende, antimonial lead, and pyrites, yielding streaks and nodules of ruby silver. Overlying the main lead of mineral there are 2 ft. of rock and shale, followed by 12 in. of quartz immediately abutting against the north or hanging wall of the vein. Approximately I estimate the yield at sight at from 5 to 8 tons per cubic fathom, or upwards of 16 tons per running fathom of 350 to 400 ozs. mineral.

**60 FM. MAIN LEVEL WEST.**—Good progress was made in the driving upon an improving vein, showing traces of ore occasionally, and exhibiting also the polished striated walls frequently associated with mineral at Frias. Up to date the end has been driven 68 fms. from centre of shaft.

**60 BOTTOM STOPES WEST.**—In consequence of the low grade quality of ore raised here (principally low class blende) this station is discontinued.

**50 FM. LEVELS.**—The chief operations at this level have been the sinking of the Esperanza shaft until the hoing with the 60 was effected.

**40 FM. WEST.**—This end is 40 fms. from shaft. The vein is 4 ft. wide, composed of dark coloured schist and quartz, with pyrites in association, and letting out considerable feed of water.

**20 FM. SOUTH-WEST.**—The vein is 2 ft. wide in the end, composed of carbonate of lime, schist, and quartz, and yielding from 10 to 15 cwt. of exports ore per fathom. The lode is liberating an increased feed of water. Progress is slow, the ventilation being defective. We are expecting shortly to intersect the western cross-course.

**20 FM. RISE AND STOPE OVER THE ABOVE.**—This station contains a 6 in. branch of ore estimated at 3 cwt. per fathom of 200 ozs. mineral. This deposit in conformity with that in the eastern section of the mine appears to have a very flat dip, approximately 25° eastwards. This should throw the ore course in depth and eastwards to the proximity of the 60 fm. end.

**SURFACE WORKS.**—I have to report the completion and setting to work of an additional new series of Hunt's jiggers for treating the screened mineral. Material is being prepared for a new drawing wheel for the engine-shaft and the putting together of the 38 ft. crushing wheel is being proceeded with. The machinery and gearing for the driving of the crusher is being rapidly delivered on to the mine.

**SARADITA MINE.**—I have to report another improvement (after a previous falling off) in the 12 fms. east. The vein is about 2½ ft. in width formed of two branches of quartz, carrying good mixture of blende and lead of saving value. The western drive contains a vein 12 in. in width, composed of dark and light coloured quartz and decomposed granite, but poor for ore. A large quantity of water is issuing from the vein. An open cut has been commenced down the quebrada at a distance of about 500 ft. from shaft for the purpose of commencing a 12 fm. adit to be driven to meet the 12 east level. At the distance of about 430 ft. from the shaft a fine-looking cross-course has been discovered bearing north-west and dipping south-west or towards this shaft. This cross vein is 3 ft. in width, and no doubt it will exert a favourable influence upon the vein we are driving upon at its intersection in further depth—i.e., at a deeper point in the mine. No ore is visible in this cross-course.

**ROCK-DRILLS.**—The fixing of the engineers' completed, and a trial of the drill has been made at surface with satisfactory results. We are now fixing pressure tubes in the levels, and hope soon to commence practical work.

From Mr. JOHN B. REYNOLDS.—The markets present such promising features that speculators for the rise are gradually regaining their courage. The depression, however, has been of long duration, and the probability is that those who have been steadily buying stocks and shares at very depressed prices are anxiously awaiting their chance of reaping their well-deserved harvest. But the securities put on the market under such circumstances will be quickly taken, and those are probably correct who look for a general advance of considerable importance in prices of sound investments. But, serious as the depression has been, it must not be forgotten that sound investment stocks—such as people rely on for income—are very high. True, expansion of trade may cause rails and banks to take a fresh start; but those parties are, we think, wise who hesitate to act on such a probability. The advance will be in those shares or stocks which have been unwisely neglected and in speculative securities of fair merit. Mines are not generally popular; but the elasticity of the mining market is very remarkable. It certainly is a very suggestive circumstance that Dolcoath shares should have advanced so fast, and to such a high price within such a short time. The mine has recently increased in market value to the extent of 75,000l., which sum represents the total market value of West Kitty, which has the reputation of being the third mine of importance in England, Dolcoath taking the lead and East Pool coming next. It is most important to the holders of shares in tin mines to consider the cause of the rise in Dolcoath shares. Dolcoath is the "Cornwall" of the mining market. It is supposed that there are more shareholders connected with the tin trade in this mine than in any other in Cornwall. It is openly stated that the rise in the market value of Dolcoath is a certain indication that tin has not only seen its lowest point for a long time, but that considerable animation in that market may be regarded as a certainty. It is further argued that the statistics have for some time justified these sanguine anticipations. There are always those to be found who take a gloomy view of matters, however; but they are being silenced by the logic of facts.

Yet Cornishmen, and the holders of Cornish mine shares, should be on their guard. There are Cornish mines most unquestionably which will and must have a rise of 300 or 400 per cent. There are others, the future of which is uncertain, but which are bona fide and excellent speculations, and as honestly managed as any bank in London. It never was so easy to get good information as it is now. The shares in demand during the week have been Dolcoath, East Pool, West Kitty, Trevaunance, West Frances, South Frances, Polberron, and some others. But the demand for dividend shares at an advance has been remarkable. West Kittys are quoted ex div., as high as they were before the div. was declared. Operators have been taking their profits in Trevaunance, and selling what they may probably not be unwilling to buy back again at twice the price obtained. Polberron shares are enquired after by those who have the best information—in fact, there are indications which cannot be disputed that investors in mines are on the eve of better times, and that the Camborne and St. Agnes districts will keep to the fore, much to the advantage of those who are interested in them.

**WATSON BROTHERS,**  
**MINEOWNERS, STOCK AND SHARE DEALERS, &c**  
**1, ST MICHAEL'S ALLEY CORNHILL, LONDON**

The New Langford Company has been duly formed, and 20,000 shares taken up, being all that will be allotted at present. The delay in the announcement has arisen through negotiations for acquiring an adjoining sett considered of importance to the company, and which will now be worked with it. From the two setts down to about 30 and 40 fms. enormous quantities of silver ores were raised. An old mineral surveyor of the district reported:—"I have known the property for a number of years, and believe it to be the richest in England for silver. It would have been re-worked long ago but for the exorbitant sum required for the property." Some of the ores at Langford brought 600l. per ton. Looking at the above facts it is proposed to drive the 50 east to get under the rich silver ground in the 30 and 40, and also the 30 cross-cut north to cut the side lode. In reference to these two points the agent writes to the secretary and says of the lode now in the 50 east, and which any day might lead to a good discovery:—"Drive the present end east, which is now in a very fine lode of great size, direct under or into the new ground below where Malachi had such rich deposits of ore at the 20, 30, and 40 fm. levels; in this way you ought to make great discoveries." Also drive the 36 cross-cut north, which, we are told, is near the lode; "is in good strata, and water flows from the breast of the end, indicating the lode being near." Nearly all the shares in the new company have been taken up at 2s. 6d. per share by shareholders in the old, and to those who have taken the same number of shares in the new that they held in the old at 10s. per share—the present cost is, of course, 12s. 6d. each, and any discovery in the 50 or 36 fm. levels, which we may fairly expect, to say nothing of the shaft which is down 7 or 8 fms. deeper, in a lode yielding copper, may cause a rise beyond that price, and repay us all with interest. The present company obtain a property with all its expensive machinery complete, and with 10,000l. spent, for 1600l.; and mines, too, that we are assured, by reports in our possession returned in former times over 300,000l. of silver above the 40 fm. level. The present experiment, therefore, is a cheap one, and all go into the company alike: that is, at par, and without promotion money.

Can anyone give us any information as to the prospects and price of Cobar and Nymagee Mines in Australia?

The lode at the 80 west at West Crebor is 6 to 7 feet wide.

**MINING IN ICELAND.**—Our Correspondent at Reykjavik (March 22) writes:—"By the steamer Glenwilliam, which arrived here on the 20th, Mr. Warren, an English engineer, who has been engaged in developing the well-known Quebrada copper deposits, arrived here to lay out a line of tramway, and push forward operations for the development of the mineral properties of the Iceland Sulphur and Copper Company. It is very satisfactory to learn that this valuable property is now about to be energetically developed, and it is to be hoped that a due share of attention will soon be directed to the other mineral resources of Iceland."



West Phoenix,  $\frac{1}{2}$  to  $\frac{3}{4}$ ; the position and the prospects of the mine have, it is said, improved, and the new manager, Capt. Rich, has given a most favourable opinion with regard to the future development of the property, and some important discoveries of tin are shortly expected.



further shipment of silver-lead ore to Liverpool, and it is stated that, owing to an improvement in the condition of the roads to Kerasande, regular shipments of ore may be shortly expected.

California Gold, 9-16th to 11-16th; this week's mill run of 495 tons yielded 7607, smelting ore sales 3407, total 11007. The stopes at the 1500 west, are reported to be in splendid condition, having 3 ft. of ore throughout, yielding 7 tons of milling and  $\frac{1}{2}$  ton of smelting ore per fathom.

Organo, 1 to  $\frac{1}{2}$ ; the report from the mines is considered satisfactory, improving sooner than was expected, while the statements regarding factory, as the Buena Ventura and Rogers' levels both appear to be the prospects are gratifying. The returns for the month show an increase of nearly  $\frac{1}{2}$  oz. per ton, while the manager states "our mill has proved itself capable of making  $\frac{1}{2}$  oz. stuff pay all expenses."

Ruby and Dunderberg,  $\frac{1}{2}$  to 1; the weekly report advises a considerable increase in the number of tributaries at work at the Dunderberg Mine, some of the men working there lately having done well. No change of moment at the Home Ticket; it has been decided to sink the incline a further 50 ft. at once. The chief information about the Lord Byron is that the ore passed through in the Tunnel was  $2\frac{1}{2}$  ft. wide of extra good quality assaying over \$90 a ton, this body of ore was going to be prospected at once. The telegram received on Tuesday still advises very bad weather, which is much interfering with the shipments of ore, but this cannot now last much longer.

Schwabs Gully Diamond, 8 to 8 $\frac{1}{2}$ ; the announcement of the quarter's dividend of 5 per cent. for only six weeks' working has caused a decidedly stronger tone to prevail. The few parcels of shares to be had have also been speedily taken off the market. This, together with the announcement of the finding of a 300 carat diamond in De Beers, has much encouraged shareholders, and it seems that the concern is advancing in public favour.

South Australian Copper Mines,  $\frac{1}{2}$  to  $\frac{3}{4}$ ; the agent at the mines reports that the prospects were never better, and that they were dressing up to the maximum limit of 16 hours per day.

In Lead Mine Shares there has been extremely little doing, and the price of the metal remains without material improvement. Roman Gravel,  $\frac{3}{4}$  to  $\frac{1}{2}$ ; the mines continue to look as well as reported last week, and 30 tons of blende have been sampled for sale next week. It is stated that an important reduction in the royalty is now being sought for by the directors and shareholders of the company.

Tankerville Consols, 1s. to 2s.; the agents report that every effort is being made to keep down expenses, and to try to meet cost. The Bog portion of the property has sold 20 tons of lead ore for 131s., and they have sampled 50 tons from Pennerley and 30 tons from Tankerville for sale next week.

Leadhills,  $\frac{1}{2}$  to  $\frac{3}{4}$ ; and more business is reported in them since the meeting, at which the Chairman and members made some encouraging observations with respect to the low price of lead and lead ores. There was also a strong feeling expressed by the shareholders with regard to Lord Hopetoun making a liberal reduction in the royalty paid by the company, as has been done in the case of several important mines in Cornwall.

The London and South African Exploration Company announce an interim dividend for the quarter ended March 31 of 2s. 6d. per share, less income tax.

It is notified that at the tenth annual drawing, held on Tuesday, 325 bonds, amounting to 88,200l. of the Imperial Government of Japan Seven per Cent. Sterling Loan of 1873 for 2,400,000l., were drawn by lot for payment at par on and after July 1 in London.

The subscription list of the Consolidated Lead and Cattle Company will be closed for town and country on Tuesday next.

Notice has been given by the North Brazilian Sugar Factories (Limited) that no further applications for their 200,000l. Six per Cent. First Mortgage Debentures can be received after Monday.

It is notified that the 6 per cent. guaranteed quarterly dividend warrants of the Hartlepool Steam Tramways, due on Monday, and payable at the National Provincial Bank of England, West Hartlepool, have been posted.

The Leeds Forge Company, at their annual meeting, held at the Forge on March 28, declared a dividend of 7 $\frac{1}{2}$  per cent. per annum on both ordinary and preference stock. This is regarded as very refreshing in these times of unusual depression.

**BEDFORD UNITED.**—Notwithstanding the depression in the metal market the monthly sales of ore and munda are realising fair prices; it is understood that a profit of 150l. to 200l. per month is being made and that the present samplings are likely to be maintained for some time to come. The accounts for the meeting next month will, it is said, show a good balance available, and out of which a dividend probably will be declared. The cutting of the lode in the 75 is daily expected, and should a good course of ore be intersected, which is generally anticipated, the returns will be increased and the mine placed in a position it has not held for many years.

**WHEAL COMFORT AND NORTH TRESAVEAN.**—The report of the recent meeting, published in another column, should be satisfactory to the shareholders generally, since they have excellent prospects, and the concern is placed in a sound financial condition. It will be observed that the adventurers have taken "the bull by the horns," and made a call to pay off their liabilities. The mine is situated in Gwennap parish, and has, we understand, no water charges, being drained free of cost, by the engine of old Tresavean Mine, and, as the report shows, there will be at present no dues payable, so with the increased returns promised the mine will be in an exceptional good position.

**GOLD AND SILVER.**—Messrs. PILEY and ABELL (April 3) write: The demand for gold for India being but small, the bulk of arrivals have been purchased by the Bank of England, the amount received being 314,000l. On the other hand, the Bank has sold for export to South America 85,000l. Large amounts continue to arrive from New York, and more is expected. The arrivals are—230,570l. from the States, 1900l. from the Cape, 52,510l. from the West Indies, 7400l. from Australia—351,480l. The P. and O. steamer takes 25,000l. to Bombay. There has not been much demand for silver for the East, the India Council having been very large sellers of their drafts and transfers during the week. The price of bars, therefore, has again declined, and the quotation today is 50 $\frac{1}{2}$ d. to 50 $\frac{3}{4}$ d. per oz. standard. The P. and O. steamers take 125,300l. to India, and 8000l. has been sent to the West Indies. The amount of 50,000l. arrived per Don, and was disposed of at 50 $\frac{1}{2}$ d. per oz. The quotation for bullion was—Bar gold, fine, 77s. 9d. per oz. standard; bar gold, containing 90 dwts. silver, 77s. 10 $\frac{1}{2}$ d. per oz. standard; Spanish doubloons, 73s. 9 $\frac{1}{2}$ d. to 73s. 10d. per oz.; South American doubloons, 73s. 8 $\frac{1}{2}$ d. per oz.; United States gold coin, 76s. 3 $\frac{1}{2}$ d. per oz. Bar silver, fine, 50 $\frac{1}{2}$ d. to 50 $\frac{3}{4}$ d. per oz. standard; bar silver containing 5 grs. gold, 51d. to 51 $\frac{1}{2}$ d. per oz. standard; cake silver, 54 $\frac{1}{2}$ d. per oz.; Mexican Dollars, 49 $\frac{1}{2}$ d. per oz. Quick-silver, 54. 10s.; discount, 3 per cent.

**GAS SHARES.**—The principal business in these shares, according to this evening's report of Messrs. W. L. WENN and Co., of the Stock Exchange and Finch-lane, has been:—Bahia (Limited) Ordinary, 22 $\frac{1}{2}$ ; Bombay (Limited), 6 $\frac{1}{2}$  to 6 $\frac{3}{4}$ ; ditto, New, 4 $\frac{1}{2}$ ; British, 40; Buenos Ayres New (Limited), 11 $\frac{1}{2}$  to 11 $\frac{3}{4}$ ; ditto, 6 per Cent. Debentures, 100 to 102; Continental Union (Limited), Original, 34 to 34 $\frac{1}{2}$ ; ditto, New, 1869 and 1872, 23; Crystal Palace, 6 per Cent. Preference, 20; European (Limited), 20; Gas Light and Coke, A. Ordinary, 200 $\frac{1}{2}$  to 202 $\frac{1}{2}$ ; ditto, H. 7 per Cent. Maximum, 143 $\frac{1}{2}$ ; ditto, J. 10 per Cent. Preference, 222 $\frac{1}{2}$ ; ditto, 4 per Cent. Debenture Stock, 105 $\frac{1}{2}$ ; ditto, 4 $\frac{1}{2}$  per Cent. Debenture Stock, 115; Imperial Continental, 194 $\frac{1}{2}$  to 196 $\frac{1}{2}$ ; Monte Video (Limited), 17 $\frac{1}{2}$  to 17 $\frac{3}{4}$ ; Rio de Janeiro (Limited), 25 $\frac{1}{2}$  to 26 $\frac{1}{2}$ ; South Metropolitan, A. 23 $\frac{1}{2}$ ; ditto, B. 21 $\frac{1}{2}$  to 21 $\frac{3}{4}$ . Gas stocks continue firm.

**INSURANCE SHARES.**—According to this evening's report of Messrs. W. L. WENN and Co., of the Stock Exchange and Finch-lane, been dealt in as follows:—Alliance British and Foreign, 37; City of London Fire (Limited),  $\frac{1}{2}$  to  $\frac{3}{4}$ ; Commercial Union, 17 $\frac{1}{2}$  to 18 $\frac{1}{2}$ ; Fire Insurance Association (Limited), 1 $\frac{1}{2}$  to 1 $\frac{3}{4}$ ; Guardian Fire and Life, 59; Indemnity Marine, 14 $\frac{1}{2}$  to 14 $\frac{3}{4}$ ; Law Life, 113 $\frac{1}{2}$  to 113 $\frac{3}{4}$ ; Liverpool and London and Globe (L. Annuity), 24; London, 48 to 50; London and Provincial Fire (Limited), 44 to 44 $\frac{1}{2}$ ; Marine (Limited), 28 to 28 $\frac{1}{2}$ ; Merchants' Marine (Limited), 1 $\frac{1}{2}$  to 1 $\frac{3}{4}$ ; North British and Mercantile, 27 $\frac{1}{2}$  to 27 $\frac{3}{4}$ ; Northern, 41 $\frac{1}{2}$  to 42 $\frac{1}{2}$ ; Phoenix, 199 to 200; Royal Exchange, 285 to 288; Standard Fire Office (Limited), 4 $\frac{1}{2}$  to 4 $\frac{3}{4}$ ; Union, 550. Fire companies generally lower.

**TRAMWAYS.**—The closing prices of this evening, as quoted by Mr. Wm. Ansbury, of Tokenhouse-yard, are given in tabular form in the last page of the Journal.

**RAILWAY AND GENERAL MARKETS.**—Referring to the course of business done to-day during official hours (11 to 3) Mr. Ferdinand R. Kirk Birchall, writes:—Opening: Country operators buying back are making Trunks a little better, but there is only as yet a moderate recovery to yesterday's crushing fall. The Ordinary is 12 $\frac{1}{2}$  to 12 $\frac{3}{4}$ , Second Preference 72 $\frac{1}{2}$  to 73, and Thirds 20 $\frac{1}{2}$  to 1. Eries are somewhat strong, and have reached 22, Readings being 27 $\frac{1}{2}$  to 28. The business now done, however, in American railways is not a little of what it was. Mining shares are rather neglected in face of the approaching

settlement. As the Stock Exchange will be closed to-morrow to-day is practically the last day of the old account. Old Shepherds were quoted 20s. to 2s. at the opening, but sellers in some instances were glad to get 19s. and 19s. 6d. so lowering the price to 18s. to 20s. East Wheel Rose neglected at 8s. to 8s., and Home Mines Trust only quoted 13s. to 15s. Bratsberg, 1 $\frac{1}{2}$  to 1 $\frac{3}{4}$ ; Victoria Gold, 12s. to 14s.; Montana, 3 $\frac{1}{2}$  to 3 $\frac{3}{4}$ ; Transvaal, 1 $\frac{1}{2}$  to 1 $\frac{3}{4}$ ; Leadhills, 2 to 2 $\frac{1}{2}$ ; Organo, 1 to 1 $\frac{1}{2}$ . Closing: Deprived of the support of "bears" Trunks soon relapsed, falling below last night's prices. Union opened flat at a reduction of  $\frac{1}{2}$ , now the fall is but  $\frac{3}{4}$ . Mexican railways recovered part of the fall shown at opening. United Mexican, 10 $\frac{1}{2}$  to 10 $\frac{3}{4}$ ; Richmond, 2 $\frac{1}{2}$  to 3 $\frac{1}{2}$ ; Almada,  $\frac{1}{2}$  to  $\frac{3}{4}$ ; North Blue Hills, 61. to 1s.; Mounts Bay, 3s. to 5s.

## COPPER ORES.

Sampled March 19, and sold at Tabb's Hotel, Redruth, April 3.

Mines.	Tons.	Price.	Mines.	Tons.	Price.
Mellancar.....	80	£2 14 6	Wheal Coates.....	55	£3 12 0
ditto.....	70	2 17 6	ditto.....	32	4 14 0
ditto.....	78	2 13 0	Camborne Vein.....	39	1 12 6
ditto.....	75	2 14 0	ditto.....	16	6 8 0
ditto.....	74	2 16 0	West Seton.....	26	3 10 6
ditto.....	70	1 13 6	ditto.....	19	3 9 0
ditto.....	59	2 11 6	West Tolgus.....	22	3 5 0
TOTAL PRODUCE.					
Mellancar.....	515	£1330 14 0	West Wheel Seton	45	£ 157 4 0
Wheal Coates.....	68	258 0 0	West Wh. Tolgus.	22	71 10 0
Camborne Vein.....	55	165 15 6			

Average standard..... £ 88 10 0 | Average produce..... 6 $\frac{1}{2}$   
Quantity of ore..... 705 | Quantity of fine copper, 44 tons 6 cwt.  
Amount of money..... £ 1983 3 6  
LAST SALE.—Average standard, £ 89 7 0 | Average produce..... 6 $\frac{1}{2}$   
Standard of corresponding sale last month, £ 89 13 0 | Produce, 6 $\frac{1}{2}$

## COMPANIES BY WHOM THE ORES WERE PURCHASED.

Names.	Tons.	Amount.
Vivian and Sons.....	160	£ 567 7 0
P. Grenfell and Sons.....	35	58 12 6
Nevill, Druce, and Co.....	91 $\frac{1}{2}$	193 18 3
Williams, Foster, and Co.....	133 $\frac{1}{2}$	353 0 9
Elliott's Metal Company.....	79	227 2 6
Charles Lambert.....	201	533 2 6
Total.....	705	£ 1983 3 6

Copper Ores for sale at the Royal Hotel, Truro, on Thursday week.—Mines and parcels.—Devon Great Consols 801—Wheal Crebor 510—South Caradon 300—Bedford United 187—Gunnislake 177—Holmbush 180—South Devon United 110—Glasgow Caradon 80—Wheal Arthur 55—Phoenix 40—Devon Friendship 22.—Total, 2442 tons.

At Redruth Ticking, on Thursday, 705 tons of ore of 6 $\frac{1}{2}$  average produce, and containing 44 tons 6 cwt. of fine copper, were sold for 1983 $\frac{1}{2}$  3s. 6d., being 2l. 16s. 6d. per ton of ore, 8s. 11 $\frac{1}{2}$ d. per unit, or 44l. 15s. 4d. per ton of fine copper in the ore, and an average standard of 88 $\frac{1}{2}$  10s. Subjoined are the particulars of the two last sales.—  
Date. Tons. Standard. Produce. Per ton. Per unit. Ore copper.  
March 20... 2933... £89 7 0... £2 18 6... 9s. 4d... £46 13 0  
April 3... 705... 88 10 0... 2 16 6... 8 11 $\frac{1}{2}$ ... 44 15 4  
Compared with the last sale the standard is stationary.

## LEAD ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Mar. 28—Miners.....	57	£ 7 2 0		Panther Lead Co.
— ditto.....	57	7 0 0		Runcom Smelting Co.
— ditto.....	50	7 1 0		Quirk, Barton, and Co.
April 1—Foxdale.....	100	8 16 6		ditto
3—Tankerville Great Consols:—				
Bog.....	10	6 11 0		Panther Lead Co.
ditto.....	10	6 11 0		Quirk, Barton, and Co.

## BLENDE.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Mar. 24—Frongoch.....	100	£ 3 2 6		English Crown Co.
— ditto.....	29	2 10 6		Vivian and Sons.
8—Miners.....	36 $\frac{1}{2}$	4 3 6		Crown Zinc Co.
— ditto.....	36 $\frac{1}{2}$	4 3 6		Vivian and Sons.
— ditto.....	35	4 3 6		Crown Zinc Co.
— ditto.....	35	4 3 6		Vivian and Sons.
— ditto.....	70	3 18 6		Crown Zinc Co.
— ditto.....	65	3 18 6		ditto
— ditto.....	87	3 13 6		Vivian and Sons.
— ditto.....	73	3 12 6		ditto
— ditto.....	23	3 14 6		ditto
31—Frongoch.....	10	3 0 6		English Crown Co.
April 1—Cwmystwyth.....	50	3 5 9		J. F. Kimmel.

## CLOSING OF THE LISTS.

**THE CONSOLIDATED LAND AND CATTLE COMPANY (LIMITED).**

Notice is hereby given, that NO FURTHER APPLICATIONS for SHARES in this company will be received after TUESDAY next, the 8th instant.

By Order, H. R. LEWIS, Secretary (pro tem).  
Bartholomew House, Bartholomew-lane, London, E.C.,  
April 3rd, 1884.

**THE NORTH MEXICAN SILVER MINING COMPANY (LIMITED).**

20, St. Helen's-place, E.C.

SUBSCRIPTIONS are INVITED for £60,000 Capital by the Issue of 3000 Debentures of £20 each.

The owner agrees that this amount shall be repaid with interest before he can derive any profit.

To effect this each subscriber of £20 is given a Debenture for £20, which ensures the repayment of his capital, and 20 fully paid-up Shares of £1 each.

TRUSTEES FOR DEBENTURE HOLDERS.

The Hon. FREDK. S. A. HANBURY TRACY, M.P.

F. W. LOWTHER, Esq.

WILLIAM PALMER, Esq.

CHAIRMAN.

Sir JOHN J. JENKINS, Esq., M.P.

This company is formed to take advantage of the railway tapping a district which has produced £8,000,000 sterling by open cuts. Owing to the solid advantages given subscribers, and unusual prospects of the undertaking, the capital is being steadily subscribed for in increased amounts daily. Applicants should send in their subscriptions at as early a date as possible.

MINING OFFICES, 1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON, E.C.

ESTABLISHED UPWARDS OF FORTY YEARS.

**Messrs. WATSON BROTHERS**, in referring to their public Circular in the *Mining Journal*, would also observe that they BUY and SELL SHARES at the net market prices of the day in all well-established and respectable Mining Companies; also in English and Foreign Funds, Railway Stocks, &c.

**JOHN RISLEY, STOCK AND SHARE BROKER,**

AND MINING SHARE DEALER,

38, CORNHILL, LONDON, E.C.

ESTABLISHED 1860.

BANKERS: LONDON and WESTMINSTER, Lothbury, E.C.

**HORACE J. TAYLOR,**

(Seven Years Assistant-Secretary to the Port Phillip and Colonial

Gold Mining Company (Limited).)

38, GREAT ST. HELEN'S, LONDON, E.C.

STOCK, MINING, AND MISCELLANEOUS DEALER.

ESTABLISHED 1874.

BUYER or SELLER of the following:—  
100 Almada and Tinto. 70 Eberhardt. 100 Orita.  
50 Bratsberg. 50 Flagstaff District. 200 Parys.  
50 California Gold. 50 Frontino. 50 Potosi.  
75 Callao Bla. 25 Gold Coast. 50 Prince of Wales.  
100 Chile Gold. 100 Gunnislake (Oltters). 50 South Caradon.  
200 Chontales. 100 Homes Mines Trust. 50 Treavean.  
100 Colombian Hydraulic. 50 Killbreth. 25 T. Lima A.  
200 Corporation So. Aus. 100 La Plata. 50 do B.  
Copper. 60 Mounts Bay. 100 United Mexican.  
100 Devon Friendship. 20 New Emma. 100 Victoria Gold.  
100 East Blue Hills. 200 Nouveau Monde. 75 Wheel Crebor.  
300 East Wheel Rose. 100 Old Shepherds.  
60 Organo.

TOLIMA (Champion Silver Mine of the World) still recommended. Mail expected on Monday next. Dividend payable to-morrow, 29th inst.

BANKERS: CENTRAL BANK OF LONDON (Limited).

## C. PASS AND SON, BRI TOL.

ARE BUYERS OF

LEAD ASHES, SULPHATE OF LEAD, LEAD SLAGS, ANTIMONIAL LEAD, COPPER MATTE, TIN ASHES, &c and DROSS or ORES containing COPPER, LEAD, AND ANTIMONY

GEO. G. BLACKWELL,

26, CHAPEL STREET, LIVERPOOL,

HANDLES

MANGANESE, BARYTES, SPARS, and ALL ORES on SALE or PURCHASE.

EDGAR JACKSON,

(Associate Royal School Mines),

ANALYST AND ASSAYER,

Assays or Complete Analyses made of Copper, Silver, Lead, Zinc, Tin, and other Ores. ASSAYING TAUGHT.

106, QUEEN VICTORIA STREET, LONDON, E.C.

JOHN LYSAGHT (LIMITED),

BRISTOL SPELTER WORKS,

BUYERS OF

ZINC ASHES, ZINC OXIDE, HARD SPELTER, CALAMINE, &c.

JOHN M. STUART,

CONSULTING MINING ENGINEER,

ANALYST AND ASSAYER,

OFFICES:

11, QUEEN VICTORIA STREET, LONDON, E.C.

MESSRS. J. AND J. BANNER,

BROKERS,

LEITH OFFICES, LIVERPOOL.

BUYERS AND SELLERS OF MINES, MINERALS, &c. COMPANIES FORMED ON EQUITABLE TERMS.

ALLAN FORSYTH,

MINING ENGINEER,

LYDENBERG, TRANSVAAL REPUBLIC.

INSPECTS, AND REPORTS FURNISHES ON TRANSVAAL MINING PROPERTIES.

J. A. JONES,

MINING ENGINEER,

GIJON (ASTURIAS), SPAIN.

Mines inspected and reported on. Assays and valuations effected. Has on hand offers of Mines of Copper, Calamine, Blende, Phosphate of Lime, Tin, Lead, Iron, Manganese, and Manganiferous Iron Ores.

SCOTT AND WYATT,

STOCK AND SHARE DEALERS,

BALTIC CHAMBERS,

108, BISHOPSGATE STREET, E.C.

ALL DESCRIPTIONS OF SECURITIES DEALT IN AT CLOSEST PRICES.

BANKERS: NATIONAL PROVINCIAL BANK OF ENGLAND (Limited).

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CIVIL AND MINING ENGINEER,

ANTWERP—27, PLAINE DE HESSE—ANTWERP.

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### BRITISH MINING:

A TREATISE ON THE HISTORY, DISCOVERY, PRACTICAL DEVELOPMENT, AND FUTURE PROSPECTS OF METALLIFEROUS MINES IN THE UNITED KINGDOM.

By ROBERT HUNT, F.R.S.,

The Keeper of Mining Records.

Formerly Secretary of the Royal Cornwall Polytechnic Society; Professor of Experimental Science in the Royal School of Mines; Editor of Ure's Dictionary of Arts, Manufactures, and Mines, &c., &c., &c.

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### Notices to Correspondents.

**GOOD FRIDAY.**—Next Friday being a closed day correspondents are particularly requested to forward their communications and reports a day earlier than usual. Replies to letters should reach us not later than Wednesday morning.

**TIN AND TIN DRESSING.**—Will some correspondent inform me, through the *Mining Journal*, the name and address of the new official liquidator of the various mines; and also the cost of dressing and smelting. Can they also give me the name of a publication on the metallurgy of tin, or one on the reduction of that metal. —STANNUM: Swansea.

**GREAT WHEAL POLGOOTH.**—Can some correspondent kindly inform me, through the *Mining Journal*, the name and address of the new official liquidator of the Great Wheal Polgooth, vice Mr. Waddell, who has left this section of the "vale of tears." —J. G.: Edinburgh.

**GOVER CONSOLS AND PARKA MINES.**—I am a shareholder in both these mines, and shall be very glad of some information respecting them. Perhaps some fellow shareholder can inform me, through the *Mining Journal*, whether they are still being worked. Why is it a balance-sheet has not been issued? —C.: Aylsham.

**NORTH TREKERRY.**—The report of the agents, Messrs. Pryor and Son, dated March 27, was sent to our office on April 4 at 7.30 p.m., and, therefore, too late for insertion among the mine reports. Those adventurers who have complained of omissions of reports on many previous occasions must attribute it to the neglect of their agents. No charge is ever made, for instance, of mine reports; but it is assumed that they will be sent in proper time.

**MINING IN JAPAN.**—"H. K." (Glasgow): We do not know of any Anglo-Japanese Mining Company, but there are good mines in Japan. They all belong to the Government, which also takes any mine newly discovered, indemnifying the landowner for the surface. There is no royalty, but the concession always reserves the Government a tax, which has been payable since 1873. We do not know whether the grant includes all the minerals beneath the surface, but it probably does, as the Japanese consider "all things in the wide expanse of Heaven, and all things on the earth, to its furthest limits, have belonged to the Emperor from generation to generation," and the words in which the tax is stated seems to indicate working for mixed metals. Those persons working mines from which gold and silver can be extracted pay annually 1½ yen per 500 taels of superficial measurement; iron and other mines not previously worked, and yielding ore from which gold and silver cannot be extracted pay 90 sen annually per 500 taels. Old mines pay the same tax per 1000 taels. When the superficial measurement is under the number of taels mentioned the tax is proportional. Since May last there has been a license fee on banks and share agencies, but we do not see how it would apply to an industrial company, which a mining company would be, so that it would be incorrect to say that share concerns are liable to 10 per cent. income tax. The trade taxes are those on buildings in the same way as house taxes and the like. What was of the nature of an income tax has been abolished, but Japanese taxation is rather complicated.

**Received.**—"J. I." (Liverpool): We have forwarded your letter to the inventor with request that he will reply to it—C. G. C. (Chile de Guyana): The letter is inserted with necessary modifications. The omitted personalities, even if true, are objectionable and inconvenient, except where the fighting editors work three eight-hour shifts a day—"Justice" (Postmark: Trinidad): We cannot allow a correspondent using a pseudonym only, to date his letter from an address which the postmark will not cover. The London Directory shows the house dated from to be occupied by a ladies' outfitter, and surely she or he would not send a letter to Trinidad to be posted so as to waste six weeks in transmission when two hours would suffice if sent direct—S. W. (Pau): We are always equally ready to protect capitalists and promoters from unfair charges, or to give space for any justifiable complaints.

## THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, APRIL 5, 1884.

### THE COMMERCIAL OUTLOOK.

We have now arrived at that period of the year which is regarded as the most hopeful, and at the same time most critical, in our annual commercial history. During the early spring months manufacturers and merchants, as a rule, scan the commercial horizon, with a view, if possible, of ascertaining requirements and making arrangements for the coming season. The quantity of "stock" in hand is carefully ascertained, and prices are most closely scrutinised. Every rise and fall of the commercial barometer is keenly watched, as it is upon such indications that shrewd manufacturers are enabled to pretty nearly predict upon which side of their balance-sheet the result of the next six months' working shall be placed. After the long depression which has been passed through, and the almost unparalleled low prices which have prevailed, every indication of anything like improvement, either in demand or price, is apt to be viewed with too sanguine complexion, and we are all more or less inclined to hope and believe that the tide of commercial prosperity has once more begun to flow, and that ere long the anxiously awaited "better times" will be enjoyed, to the mutual advantage of both manufacturer and operative. As the representative of the great metal and colliery interests of this country nothing would afford us greater pleasure than to be able honestly to endorse the sanguine views put forward, and announce that upon taking a calm and dispassionate view of the present state of trade and the probable requirements, we could predict that we have passed the trying ordeal, and that we are on the dawn of more prosperous times. Not that we would take a pessimistic view of the state of trade at the present juncture. There are features which present indications of hope; but there are also contingencies which will have to be boldly and bravely faced in the future, as in the past, and to be reminded of these and the true position of affairs is one of the best means of escaping commercial disaster.

Our first point is one which cannot be gainsaid, and should not be ignored—the extreme depression of the great manufacturing industries of the kingdom. From all the great iron, steel, and metal centres and colliery districts the same reports of depression and low prices are received. We may make bold enough to say that there is no one single metal manufacturing district in the whole kingdom which is in anything like full vigorous operation or would not gladly extend its make if adequate prices ruled. It is true that the various railway companies of the kingdom earned fairly good dividends for their shareholders for the past half-year, and these returns afford accurate data for estimating the state of trade; but, on the other hand, the divisible sums were the result of more economic management and the fact that steel and iron rails used in the relaying and repairs were purchased at exceedingly low prices. Eleven of what may be termed the principal mineral lines of the kingdom totalled 28,580,000, as their receipts for the half-year ending Dec. 31 last, as against 27,865,000, for the corresponding period of the previous year. This showed that a fairly good manufacturing trade was done, and there is no reason why this regular and steady trade should not be maintained over the ensuing six months. But there is no denying the fact, notwithstanding that the present commercial outlook is far from being cheering or hopeful, and that manufacturers who would, as shrewd business men, endeavour to read the signs of the times, must be prepared to restrict operations if they would not see

yet more ruinous prices prevail over the spring and summer months. So far as can be seen there is nothing likely to occur, either in the home consumption or the foreign demand, which would lead us to justify any expectation of commercial reaction, or to call for any strain upon the manufacturing resources of the country. The number of new lines of railway required in this country is but small, whilst the demand for steel and iron rails either in our own colonies or in distant nations will be eagerly competed for by other nations, which will effectually prevent any material rise in prices. There is another point of importance which should be taken into consideration in our forecast of the future. For many months past production has been far more than consumption. This is most apparent in the case of steel and iron shipbuilding. Up to a few months ago the principal shipbuilding ports were actively engaged in the building of steamers and sailing vessels of the very heaviest tonnage, and makers of steel and iron plates were correspondingly busy. What is now the consequence? Why in many of our principal ports large numbers of steamboats are buoyed up—absolutely lying idle. The tonnage being so much more than the demand the freights are so low as to be altogether unremunerative. Nor is this all. The competition with the continental and foreign nations for the supply of almost every description of the world's consumption of manufactured goods will be keener in the future than it has been in the past—severe as that has been. England can maintain its own in a fair commercial competitive race; but we are now heavily handicapped, the many restrictions which beset our industries hanging like so many millstones around the necks of manufacturers, and which do not appertain to other countries. It is useless to expect or even desire the nation to go back to Protection; but it does seem somewhat unfair and hard that whilst England opens her ports and markets freely for the manufacture of every kind of foreign goods, without shipping or other duties, every other country imposes heavy duties upon every kind of British manufacture. Nor is this all. The Government is so solicitous for the health and comfort of the operatives that it has passed restrictive measures in the shape of Factories and Workshops Act, restricting the hours of work, and appointed a large number of Inspectors to see that the clauses are rigidly enforced and penalties enacted for the breach thereof. None of the continental nations are so hampered. And whilst this is the case the English mechanic and artisan are paid a far higher wage than any other workman. We simply mention these things, not to decry the productive powers of the country, but in the hope that the working classes generally will ponder over them, with the view of checking the absurd demands for increased wages which are continually being made.

Whilst the present condition of the staple trades of the country and their future prospects compel us thus to write somewhat gloomily we are not taking anything like a desponding view of the situation. We are not amongst the number of those who would write "Ichabod" over the portals of the nation. We have elements of future commercial prosperity which will command for us the leading mart of the world's commerce. We have practically an inexhaustible supply of coal, cheaply and expeditiously raised. We have a capital at command, always open for profitable employment, which is the envy of other nations. British capital and British enterprise will always prove the pioneer of civilisation, and will carry British commerce into every continent. India, China, Africa, Canada, Australia, and our colonies generally are all awakening, gradually it may be, but surely, to the necessity and importance of railway expansion, and the demand for steel rails in the future will be at least equal to the past. England will participate in the demand which this expansion will create, and it will depend very much upon the attitude of those engaged in our great manufactures and workshops whether the proportion of goods shall be large or small. General stability and excellence of workmanship will secure for English manufacturers a fair share of the world's commerce; but the competition is severe, and growing in severity. Our mechanics and operatives in this competitive race should face the inevitable, and should be prepared to accept that which cannot be avoided. The rate of wages at present paid is far higher than the depressed condition of trade and current prices justify; and if our operatives generally are wise in their day and generation they will gracefully accept such judicious reduction in wages as will enable manufacturers and merchants to successfully compete for any improved trade that may set in.

### PROPOSED SCIENTIFIC AND TECHNICAL COLLEGE FOR WALES.

An influential public meeting of the ratepayers and inhabitants of Swansea (convened by the Mayor, Mr. R. D. BURNIE) was held in the Guildhall, on Wednesday evening, for the purpose of considering what steps should be taken to place Swansea's claims prominently before the Government for a grant for scientific and technical education. The Mayor, in opening the proceedings, said that the memorial which had been adopted by the Corporation did not propose to injure Aberystwith College, but rather to secure the grant of 4000l. a year to that College, on the condition of its being removed to Swansea, which he thought would be a most magnificent thing for the whole education of Wales. The Council of Aberystwith College, however, had taken an opposite view of the question, and, therefore, it remained for Swansea to confine her efforts to her own interests. His worship then dwelt at some length upon the peculiar and favourable position of Swansea as the site of the proposed scientific and technical college for South Wales. Swansea was the centre of a very large population, all of whom were more or less connected either with the metal trades or colliery operations, whilst in conjunction with the adjacent towns of Neath, Port Talbot, Aberavon, and Llanelly it was known as the metallurgical empire of England, if not the world.

If, said his worship, England is to maintain her own as one of the principal manufacturers of the market of the world, we must devote our attention to the cultivation of skill as well as physical strength, for as Prof. HUXLEY had said—"The nation which does not wield her commercial weapons scientifically will fall backward in the competitive race of trade." After alluding to the facilities in many of the Continental nations, more especially Germany, for the acquiring technical and scientific education, his worship moved—"That this meeting is of opinion that for the many unanswerable reasons stated in the memorials lately presented to the Right Hon. W. E. GLADSTONE, Lord CARLINGFORD, and Mr. MUNDELLA, Swansea, as the chief town in the Principality, has a paramount claim for a grant for higher educational purposes; it is further of opinion that the establishment of an institution here in which the teaching of technical science, engineering, mining, and similar studies should be its leading features, would not only be of local, but also of great national advantage." The Mayor supported the resolution in an able and exhaustive speech.—The resolution was carried unanimously.

Mr. R. G. CAWKER proposed that the resolution should be forwarded to Mr. GLADSTONE, Lord CARLINGFORD, and Mr. MUNDELLA, asking them to take the subject into consideration.—Mr. J. C. VYE PARMITER, J.P., proposed, and Mr. Councillor ROCKE seconded, a resolution asking that the borough and county members of Parliament be asked to support the views, and to use their influence in Parliament towards the accomplishment of the object.—These resolutions were also carried with enthusiasm, which concluded the proceedings.

### THE BESSEMER STEEL, AND STEEL RAIL TRADES.

Considerable changes took place during last year in the production of Bessemer steel and steel rails. Sheffield, where the Bessemer process was perfected, shows a considerable falling off, and the trade appears to be drifting northwards. To some extent this is due to the railway rates to the sea-ports. The competition for foreign orders has been keen, and as the Sheffield makers have had to pay from 10s. to 12s. a ton for carriage to a port they have been too heavily handicapped to compete with works near to the sea-board. It was the railway rate that principally induced Messrs. CAMELL and Co., of Sheffield, to remove the works to Workington, where they are now securing large orders for Australia and other distant countries, and enabled to compete with the Barrow, Middlesbrough, and South Wales makers. During the last few years, however, great progress has been made in South Wales, which now leads in the output of

Bessemer and in steel rails, although it is probable that it will be overtaken by Cleveland with the basic process and its vast deposits of suitable ironstone close at hand, whilst in South Wales much of the ore has to be brought from a considerable distance. In West Cumberland also progress may also be looked forward to, since there is plenty of the best ironstone near the various works. For the first time, however, since Bessemer was made to any extent there was a decrease in the production in 1883. The quantity of Bessemer ingots turned out in 1882 and 1883 was as follows:—

	1882.	1883.
South Wales .....	483,086	504,966
Sheffield .....	420,000	285,963
Cleveland .....	326,924	304,606
Lancashire, &c. ....	252,313	247,440
West Cumberland .....	191,326	210,605

This shows a decrease of 120,269 tons in 1883 as compared with the previous year. As regards Sheffield, at the vast works of Brown's and CAMELL's rails are not now produced, whilst a good deal of the Bessemer made is converted into rails, tyres, and used for tool and wire making. Were it not that a good deal was absorbed for these purposes Sheffield would show to greater disadvantage. It is, indeed, evident that the rail trade will migrate altogether to works situated near the sea-ports, so that a railway rate will be altogether avoided. But last year the decrease in the production of Bessemer also meant a decrease in the make of rails of the same material. The tonnage of steel rails made during the last three years was as follows:—

	1881.	1882.	1883.
South Wales .....	305,043	367,944	410,676
Sheffield .....	245,469	310,000	142,665
Cleveland .....	216,004	265,842	245,386
Lancashire, &c. ....	136,131	141,306	125,011
West Cumberland .....	121,093	150,693	173,436

Total .....

1,023,740	1,235,785	1,097,174
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South Wales it will be seen well maintained its position, whilst Sheffield did not produce in 1883 one-half of what it did in the previous year. Cleveland also shows a falling off, but to some extent this was due to disputes that are by no means unfrequent in that district, whilst the increase in West Cumberland may be attributed to the opening in the last quarter of 1883 of the extensive works of CAMELL and Co. But whilst in 1883 there was a decrease of 138,611 tons of Bessemer rails as compared with 1882, it may also be said that there has been a considerable fall in the price of them. The lowest point indeed was reached in 1883. The following figures will show the variations that have taken place in the value of Bessemer for several years past:—

Year.	Per ton.	Year.	Per ton.
1870.....	£10 10 0	1877.....	£6 11 3
1871.....	11 18 9	1878.....	5 12 6
1872.....	13 17 6	1879.....	5 2 0
1873.....	15 7 6	1880.....	7 0 0
1874.....	11 17 6	1881.....	6 0 0
1875.....	9 2 6	1882.....	5 10 0
1876.....	7 15 0	1883.....	4 12 6

It may be stated that hematite iron for making into Bessemer in the early part of 1883 were quoted at 60s. per ton, but now they are procurable as low as 55s. per ton.

### PRICE OF COPPER.

There having been no sales of copper furnace material at the Swansea Ticketings during the past quarter we subjoin, for the guidance of our subscribers and correspondents in foreign countries, a list (supplied by Messrs. JAMES LEWIS and SON, of Liverpool) of produce and prices per unit. There were other sales, but as the produce are not given we omit them:—

Mar. Tons.		Per cent.		Per unit.
1.. 1100...Ore .....	Battle Mountain .....	20	Liverpool ..	11/1½
2.. 180...Ore .....	New Quebrada (ruby) ..	15	Swansea ..	11/3
3.. 87...Regulus .....	Canadian .....	28	Swansea ..	10/7½
5.. 160...Ore .....	Cape (rich) .....	30	Swansea ..	11/3
5.. 200...Ore .....	Cape (poor) .....	25	Liverpool ..	11/0
10.. 260...Ore .....	Peruvian .....	25	Liverpool ..	11/3
11.. 135...Ore .....	Montana (arsenical) ..	20	Swansea ..	10/1½
13.. 500...Regulus .....	Rio Tinto .....	30	Swansea ..	10/1½
13.. 170...Ore .....	Italian (to arrive) ..	10	Swansea ..	10/6
13.. 200...Precipitate ..	Rio Tinto .....	70	Swansea ..	11/3
13.. 170...Ore .....	Spanish (low produce) ..	—	Swansea ..	10/6
21.. 1100...Ore .....	Australian (to arrive) ..	30 to 20	Swansea ..	10/5 to 11/2
23.. 30...Ore .....	New Quebrada (ruby) ..	15	Liverpool ..	11/0
25.. 50...Ore .....	Precipitate (rich) ..	20	Swansea ..	11/7½
25.. 50...Ore .....	Montana (arsenical) ..	20	Swansea ..	10/3
25.. 100...Ore .....	Battle Mountain (to arrive) ..	20	Swansea ..	11/3

Rumours of large supplies from the United States in the course of the year, and the entire absence of any desire on the part of the general public to invest in this metal—or in fact in anything else—notwithstanding the very favourable statistical position, has, writes Messrs. Lewis and Son, caused a decline of about 30s. per ton in the value of Chili bars during the past month. The demand from the trade has been very good, and deliveries continue exceptionally large. Smelters and manufacturers are full of orders for nearly two months forward, and large quantities of sheets are being taken for India. The smelters reduced the price of manufactured copper 2½ per ton on March 28, making strong sheets 67½ per ton. It is reported that about 6000 tons of Lake Superior ingot copper has been sold for delivery in France during the year on private terms. On March 17 the Chili charters were advised for the first half of the month as 1700 tons bars and ingots—1150 for England and 550 tons for orders here or Continent. The arrivals of bar copper have been very large (about 3900 tons), but they will be very moderate for some time to come, the quantity afloat being greatly reduced. Deliveries are much in excess of last year. The arrivals from Chili during the past month have been 3894 and the deliveries 3682 tons, and from other countries 3366 and 3230 tons fine respectively. The arrivals here from the United States consist of 105 tons bars, 22 matto, and 1879 tons ore, equal to about 856 tons fine copper.

### SCOTCH PIG-IRON WARRANT MARKET.

Mr. W. WILSON (Glasgow, April 2) writes:—The warrant market is steady, and the stock is strongly held; but there is little doing in the way of fresh purchasing. The shipments should now increase as the Baltic ports open; but they will probably fall short of the figures of last year. We calculate, however, that with the present reduced production stocks will be drawn upon to whatever extent the shipments exceed 10,000 tons per week. Shipments are fair for the week, and compare favourably. There is no change in the number of furnaces blowing. 406 tons were put into store here last week, while 310 tons were taken out at Middlesbrough. Business was done during the past week at the following prompt cash prices:—

Thursday, March 27.	Friday, March 28.	Monday, March 31.
42/5, 42/5½	42/5, 42/5½	42/5½, 42/4
Tuesday, April 1.	Wednesday, April 2.	Thursday, April 3.
42/4, 42/3	42/3, 42/2, 42/3	Fast day, no market.
Price of Scotch Warrants, March 31.	1884.	1883.
Furnaces in blast in Scotland do. ...	93	111
Iron in store at this date .....	594,728	594,564
Shipments of Scotch pig-iron for 1 week ending March 23 .....	10,933	8,500
Do. since beginning of year .....	128,300	137,901
Price of Middlesbrough, No. 3, March 31 ..	37/3	40/
Furnaces in blast Middlesbrough dist. ..	104	119
Middlesbrough Iron Imported at 1 Grangemouth, week ending March 29 .....	5,410	5,500
Do. do. since beginning of year ..	71,810	61,731

THE INSTITUTION OF CIVIL ENGINEERS.—At the meeting, on Tuesday (Sir J. W. Bazalgette, C.B., President, in the chair), it was announced that the Council had recently transferred Joseph Bernays, George Cartwright, Charles Colson, William Irlam Ellis, Alan Grant-Dalton, James Charles Inglis, and Arthur Shanks to the class of Members; and had admitted James Hartley Abbott, Henry Matthew John Bacon, John James Bourne Benson, Henry John Bridgewater, Herbert Alexander Caffin, Arthur Pitt Chambers Cary, John Jacob



Cohen, Alfred Fawcus, John Jervis Garrard, Albert Daniel Greator, Bertram Jones, Cyril Edward Arengo Jones, Hugh Torrance Ker, James Percy Knight, Hubert Bindon Marten, and William Pollock as Students of the Institution. At the monthly ballot—Frederick Beesley, Westminster; Jorge Rademake, Grünwald, Dom Pedro II. Railway; Clayton Turner, Queen-street-place, were elected Members; José Barbalho Uchôa Cavalcanti, Rio de Janeiro; John Henry Clemes, Falmouth; Charles Edward Goodfellow, Adelphi; Francis William Gosling, Staines; Archibald Greenlees, P.W.D., India; Frank Gotto, Westminster; Henry Charles Kirstein, Millwall; John Edmund Phipps Lincké, P.W.D., India; Francis Ronan Mahony, Cork; Charles Leslie Stewart Mais, A.K.C., Stud. Inst. C.E., Jamaica; Henry Waterworth Parkinson, Lancashire and Yorkshire Railway; George Rankin, Stud. Inst. C.E., Cape Government Railways; Thos. Harold Rawson, P.W.D., New Zealand; Martin Fenn Roberts, Post Office Telegraphs; Henrique Scheid, Rio de Janeiro; William Acheson Traill, Electric Tramway, Portrush; and William Whittington, Neath, Associate Members; and Tolmie John Tresidder, Capt., R.E., an Associate.

#### EXPERIMENTS ON THE COMPOSITION AND DESTRUCTIVE DISTILLATION OF COAL.

An interesting paper upon these experiments was read before the Institution of Civil Engineers on Tuesday (Sir J. W. Bazalgette, C.B., President, in the chair) by Mr. WILLIAM FOSTER, M.A., F.C.S. In the first portion he dealt with the chemical composition of six samples of coal raised in different parts of the United Kingdom, and of widely different characters. One was a specimen of Scotch Cannel, a second a specimen of English Cannel, two were from Yorkshire, one from Durham, and one was Welsh anthracite. The samples were of good repute, either for the manufacture of illuminating gas or of foundry coke. The amounts of each and all of the elementary components were given in the form of tables. Each sample was then submitted to the process of destructive distillation, and the coke produced was then fully analysed, the same details having been worked out as in the case of the parent coals. The connection between the composition of a sample of coal and of the coke which it furnished was thereby elucidated. In this way some instructive details were brought to light.

The relation between the amount of sulphur present in a particular sample of coal and that remaining in the coke was then discussed, and a table was given showing the amounts of sulphur evolved by the respective coals when treated as in the manufacture of coal gas. In all the cases under notice the amount of sulphur remaining in the coke was less, and occasionally considerably less, than that present in the parent coal. It was remarked that this was in opposition to the generally received opinions on the subject, which were to the effect that one of the drawbacks to the use of coke as a domestic fuel arose from its containing more sulphur than raw coal.

The behaviour of the nitrogen of each of the samples of coal was discussed at great length, so that the paper formed a continuation of the author's earlier researches on this branch of the subject. The chief interest centred in the nitrogen remaining in the coke, which was shown to contain from 50 to 66 per cent. of the original nitrogen of the coal. The amount of the nitrogen of the coal, coming off as ammonia during the process of destructive distillation, was also given for the different samples, and estimates were furnished of the amount coming off as cyanogen during the same process. By the author's methods of experiment, a considerable proportion of nitrogen was still unaccounted for, which he believed to exist partly in the tar in the form of alkaloidal substances, but principally as free nitrogen in the coal-gas. The paper then dealt at great length with the question of recovering the nitrogen of coke as the valuable product ammonia, and showed how this might be effected by the action of steam at a high temperature. By gasifying coke, in the manner stated in the paper, until it lost a little more than 40 per cent. in weight more than 60 per cent. of the total nitrogen of the coke was evolved as ammonia gas. In other words, 100 tons of coke, when submitted to this limited influence of steam, furnished ammonia equal in amount to 4 tons of ammonium sulphate.

The author then discussed the bearing of these researches on the question of supplying gaseous fuel for industrial purposes. Coke was frequently, owing to local circumstances, and varying conditions of the weather, almost unsaleable in certain districts. By converting it into gaseous fuel of the highest thermal value, through the agency of steam at a high temperature, a considerable proportion of the nitrogen of the coke might be simultaneously obtained as a by-product. In the course of the treatment with steam, the sulphur of coke made its appearance in the form of sulphuretted hydrogen, a condition most favourable for its ready and profitable removal from the gaseous fuel. In this way it was suggested that a sulphur-free product could be obtained which could not fail to commend itself if supplied for use in such industries as those of Sheffield and Birmingham. Allusion was made to the fact that it was 20 years since the late Sir William Siemens applied gaseous fuel to the heating of the retorts of the Paris gas-works, with perfect success. A similar application in this country had not been known for more than three or four years. Some calculations were made of the thermal value of the gaseous fuel which it was proposed to manufacture, but they were extremely brief, and related to the figures obtained in the course of the experiments.

#### MANCHESTER GEOLOGICAL SOCIETY.

The ordinary monthly meeting of the members of the above society was held on Tuesday at Manchester, the President—Mr. R. PILKINGTON—occupying the chair. Prior to the commencement of the ordinary business the Chairman referred to the death since the last meeting of Mr. J. E. Forbes, F.G.S., one of the hon. secs. of the Society, and announced that the Council had resolved to forward a vote of condolence to the widow of Mr. Forbes on the great bereavement she had sustained. He said the death of Mr. Forbes would be a great loss to the Society, and he would move that the meeting endorse the action which the Council had taken. This was seconded by Mr. ATKIN, who spoke highly of the services which Mr. Forbes had rendered to the Society, and unanimously agreed to.

#### SAFETY-LAMPS FOR MINERS.

This question again came before the members for consideration. Mr. JOSEPH DICKINSON, H.M. Chief Inspector of Mines, drew attention to Herr Wolff's apparatus for the relighting of lamps, which was exhibited at the previous Wigan meeting by Dr. Foster, Inspector of Mines. One of these lamps had been sent to him by Dr. Foster, and as probably there were members present who had not seen it at Wigan it would, perhaps, be of interest if they had now an opportunity of inspecting this very simple arrangement which Herr Wolff had introduced for relighting safety-lamps. The lamp having been handed round for inspection a short discussion took place. A question was asked whether the power thus placed in a miner's hands of relighting his lamp might not bring with it an element of danger, as supposing the lamp were full of explosive gas, and a light suddenly struck in the midst of it there was the question whether there might not be a great risk of explosion by the light being thus suddenly lit, which would not exist where the gas had been accumulating gradually in a lamp which was lighted.—Mr. DICKINSON said this might possibly under some circumstances be a source of increased danger, and in reply to further questions whether this relighting arrangement would, as had been suggested by Dr. Foster, be an infringement of the Mines Regulation Act, Mr. Dickinson said it could scarcely be urged that the means of relighting such as the Wolff lamp possessed were plainly and straightforwardly an infringement of what was really the intention and spirit of the Act of Parliament, because the means of relighting was not absolutely and independently in the possession of the miner, but was as much under lock and key as the lamp itself. Looking at the great inducements which existed for a miner to unlock and relight his lamp in a mine far away from the authorised station for relighting, he could not help thinking that there was room for the introduction of a means of relighting such as the one before them, especially in a mine where

the lighting station was a long distance away, and the travelling roads were bad.

Mr. H. N. FORD, of Macclesfield, next exhibited a miner's safety-lamp, which he said had been invented and constructed with the view of its being impossible to explode it. The body was solidly cylindrical, there being no gauze for the admission of gas by direct horizontal current. The upward currents of the products of combustion prevented the entry of gas downwards and the entrance upwards (in the direction of ventilation) at once extinguished the light. The locking was so arranged that the lamp could not be unlocked without extinguishing the light. The plan adopted for locking the lamp consisted of the insertion of a bolt which was held by a bar dropped perpendicularly upon a bolt within the lamp. To unlock the lamp this bolt had to be withdrawn, and this could only be done by turning the lamp upside down, which at once extinguished the light. In the discussion it was suggested whether this arrangement might not induce colliers to carry matches with them to relight the lamp. Mr. FORD replied that the upsetting of the lamp would be discovered by the stains of oil which would result, but this members scarcely considered would be a sufficient protection, as such stains could be removed by the collier.

#### THE MINERAL VEINS IN THE ENGLISH LAKE DISTRICT.

The Hon. Sec. (Mr. J. S. MARTIN, Inspector of Mines,) read a paper, contributed by Mr. J. D. Kendall, F.G.S., "On the Mineral Veins of the English Lake District." The writer stated that it was not a little remarkable that, although mining was said to have been conducted in the above district since the time of the Romans, so little information existed with regard to the nature of the deposits that had been worked. A few isolated pages in the history of the mining operations were to be met with in some antecedent publications; but there was almost nothing recorded as yet of a geological character. After giving a detailed description of the geological structure of the district in which the veins occurred, the writer said there were many different kinds of minerals to be found in most of the veins, yet there was in every vein a preponderance of one particular mineral. Taking the metallic minerals as the basis of classification, the veins occurring in the district might be distinguished as follows:—1, lead; 2, copper; 3, zinc; 4, iron; and 5, manganese. Most of the veins hitherto worked occurred in the lower silurians and in the granite and granitoid rocks associated with them. Mineral veins had, however, been met with in the upper silurians; but they were rare, and, so far, had not proved of any great economic importance. In the Conistone grits and flags, about midway between Staveley and Kent-mare, a lead mine was worked for several years, and a considerable amount of work done, but the results were not satisfactory. Other trials were made between Winstar and Crook, in the Bannessdale slates, and a small quantity of galena was obtained, but not sufficient to induce the adventurers to continue their work. In the lower silurians and their associated rocks veins were numerous, and some of them had yielded large quantities of minerals. In the Borrowdale Rocks there were the famous copper mines of Conistone, and the equally important lead mines of Greenside, besides a large number of veins of both lead and copper in other parts of the district, many of which had not been worked at all, and others only partially. Veins of hematite were abundant in these rocks, but very few of them had been explored on account of their great distance from the railways. The most extensive workings had been at Tongue Gill, near Grasmere, and at Dunnerdale, in the Duddon Valley. It was in these rocks that the Borrowdale graphite was met with. In the Skiddaw slates veins of both lead and copper occurred. Among the mines in which ores of the former metal were worked, it would suffice to mention Loweswater, Goldscope, Newthwaite, Barrow, Brandlehow, Force Crag, Thornthwaite, and Woodend. Some of these mines worked ores of zinc as well. The principal copper mines in the Skiddaw slates were at Goldscope and Dalehead, but there were several other copper veins in these rocks, some of which had not been proved, and others had been worked but slightly. Hematite had been worked very extensively in these rocks for a number of years at Knock-marten and Kelton Fell, and these were almost the only places at which any serious attempt had been made to find it. Veins of manganese ores also occurred in these rocks, but they had not yet been worked, except in the most trifling way. In the Eskdale granite and the Ennerdale syenitic granite the only veins that had been much worked were those of hematite. In the former rock this ore had been obtained in Eskdale, on both sides of the valley opposite Boot, and also near the King of Prussia. It had also been worked near Bootle. In the latter rock several veins had been worked in a small way near Ennerdale Lake, and it was now proposed to make a railway to them. In the hypersthene and its associated rocks of Carrock Fell and the neighbourhood both lead and copper veins had been worked, notably at the mines of Roughten Gill, Silver Gill, &c. There did not, however, appear to be any single instance in the district of the same vein being worked in the granite or granitoid rocks, and in the sedimentary or volcanic rocks surrounding them. Veins occurred between different kinds of rocks, as in Clensgill, Ennerdale, where a vein of hematite had been partially worked, with Skiddaw slate on one side of it and syenitic granite on the other. With regard to the direction of the veins there was great variation, even when the preponderant mineral was of the same kind, and there was also considerable variation of "hade" both in direction and amount. Some veins were found to "hade" towards the east, whilst others had a westerly inclination. The amount of "hade" in some cases was nearly plumb, whilst in others it was as much as 35° from the vertical. But notwithstanding these great variations in direction and "hade," which at first sight were almost confusing, a considerable amount of order might be discerned in them, as on closer inspection it was found that both the direction and the "hade" of the veins almost invariably corresponded with the planes of one or other of the different sets of joints by which the enclosing rocks were intersected. The breadth of the veins was variable, some having an average breadth of 3 or 4 ft. only, whilst others were as much as 5 or 6 ft. The extreme depth to which the veins descended had not yet been proved. The deepest exploration was at Conistone, where one of the veins had been worked to a depth of 260 fms., and was still going down without any apparent indications of nipping out; in fact, it was quite as wide now as when near the surface. The low price of hematite as compared with that of lead and copper necessarily prevented veins of the former mineral being worked to the same extent as the latter, and the breadth of the hematite veins at lower levels consequently remained unknown. When the veins were examined internally it was found that they were divisible into two classes—one with veinstone, and the other without veinstone. The first class included veins of lead, copper, and zinc, and the second composed those of hematite and manganese. The manganese ores were not common in the district, and only one or two had been but partially worked, so that it was not possible to say much about them, for the ore seemed to occur in them much way as hematite, being sometimes confined to a narrow strip along one wall, and at others extending completely across the vein. In taking a general view of the inner nature of the mineral veins, no matter whether they had veinstones or not, a close observer would not fail to see the apparently semi-stratified form assumed by everything in the vein. The "horres," the "longhs," the "ribs" of mineral, and even occasionally the spots and blotches all had apparently the same "hade" as the vein. The metallic yield of the principal ores was as follows:—Chalcopyrite was very variable in its yield, ranging between 23 and 18 per cent. of metallic copper. The galena contained metallic lead in quantities varying from 60 to 75 per cent., and some of it was very rich in silver, 11 to 12 ozs. per ton being common, and the Roughten Gill ore was said at times to contain as much as 35 ozs. of silver per ton of galena. The yield of zinc from blende might be taken as between 40 and 47 per cent. Analysis of some of the ores from the hematite veins, and also from one of the ores of manganese showed 64.80, 56.15, 48.40, and 19.20 of metallic iron. The writer then at great length proceeded to deal with the question of the probable age and origin of the ores in the English Lake district, and the conclusions which he arrived at with regard to this argumentative portion of his paper may be summed up as follows:—1. The veins were not filled fissures.—2. The variations in breadth were not due to the sliding of the walls, and upon one another, but to variations in the solubility of the rock.—3. Veinstone was part of the

rock which originally existed where the veins now were, and was a result of metamorphism.—4. The metallic minerals, hematite excepted, were deposited in cavities of the veinstone from chemical solutions; and—5. That the hematite veins were substitutional deposits, the age of which was probably the early permian. This last conclusion, the writer added, was demonstrated by two facts. First, that rounded and smoothed pieces of hematite had been met with the breccia; and, secondly, that a body of hematite occurred in the upper coal measures, about five miles from Whitehaven.

The usual vote of thanks was passed, and the discussion on this paper adjourned.

#### GEOLOGICAL EXCURSION TO LINCOLN.

The Geologists' Association have arranged to make an excursion to Lincoln on Easter Monday and Tuesday, which is likely to be at once interesting and instructive, since Messrs. W. H. Dalton, F.G.S., and A. Strachan, M.A., F.G.S., both of the Geological Survey, and Mr. W. D. Carr, of Lincoln, have undertaken the duties of directors. On the arrival the parties will proceed to the large brick pits of Messrs. Swan Bros. and Bourne, on the North Cliff. Here, under 15 ft. of inferior oolite and 3 or 4 ft. of ironstone of the Northampton sand series (but, unfortunately, so crowded with phosphatic pebbles as to be commercially valueless), is a section 60 ft. in vertical height of the upper lias clays, divisible into the life-zones of ammonites bifrons, A. communis, and A. serpentinus. Other species also occur abundantly and in good preservation. The termination of each zone (except the upper one, whose topmost beds have been removed by denudation), is marked by a bed of fragments of shells loosely packed together, with little or no clay as matrix. The upper of these, terminating the A. communis zone, is characterised by nucula hammeri, the lower, which marks the disappearance of A. serpentinus, contains a large undescribed lucina. Each of these shell-beds reaches a foot or more in thickness, and is crowded with small gastropoda, &c.

About 40 ft. below Messrs. Swan's pit is a terrace, marking the top of the middle lias, and an old brickyard just below shows these beds, which are, however, better seen elsewhere. The party will then return to Lincoln on foot, and proceed by tramcar from the Witham Bridge, across the wide spread of river gravel extending to the southern suburb of Bracebridge, on entering which Mr. Best's brickyard may be seen on the left hand, reaching to the top of the hill, and exhibiting a rather more complete section than Messrs. Swan's, but in a way less favourable for examination. Fully 100 ft. of the upper lias is or has been exposed here, but talus hides a considerable part, and is often in a state of quagmire, precluding access to the remaining faces. We shall therefore pass on to the pit of the Bracebridge Brick Company, 2½ miles south of Lincoln. Here 20 ft. of middle lias clay, with beds of ferruginous sandstone, overlies 30 ft. of lower lias with grey septaria. N.B.—By middle lias is meant the zone of A. margaritatus, that of A. capricornus being relegated by the Geological Survey to the lower lias. There is no real break, as A. margaritatus occurs in fair abundance in a belt of phosphatic septaria, 10 ft. below the lithological boundary indicated by the lowest iron-sandstone band, the bottom of which contains pockets of rolled pebbles of phosphate. 1½ mile further south is the Lincoln Brick Company's pit, close to Waddington station. This shows 15 ft. of lower lias clay, abounding in A. capricornus and other fossils.

On the second day the party will leave Lincoln by 8.38 train for South Willingham (17 miles north-east). A visit will first be paid to a brick-yard in Kimeridge Clay, a little to the east of the station, where fossils may be collected, and the great septaria common in this part of the formation are well seen. Thence (½ mile east) up the railway to the west end of Benniworth Tunnel, where chalky boulder clay, underlain by stratified gravels, is seen resting on the lower neocomian sandstone. At the east end of this tunnel, which is ½ mile long, similar glacial beds are seen resting on the bed of clay with oolitic grains of iron oxide, which forms the base of the middle neocomian clays; in the cutting ½ mile further east, this iron ore, with numerous fossils, is seen resting on snow-white sands of lower neocomian age. Crossing thence to Donnington Station (about 1½ mile east), through a cutting in which a fossiliferous zone in the lower neocomian sandstone is exposed, a visit will be made to a sand-pit and a brick-pit (both close to the station) in the middle neocomian clays, where fossils (amongst which are crustacean remains in septarian nodules) may be collected. From this point the railway runs in shallow cuttings in this clay as far as the cuttings in the carstone (1 mile east), where at the entrance to the Withall Tunnel there are clear exposures of the upper 30 ft. of the carstone, of the whole of the red chalk, and of 10 to 20 ft. of the white chalk. Those who remain in Lincoln till Wednesday or Thursday will have opportunities of seeing the higher members of the lower oolite series. The Corn-brash of Sudbrook in particular is excessively rich in fossils, whilst the Greetwell and Heighington cuttings afford sections of the great oolite faulted against the Lincolnshire limestone (inferior oolite).

**SOUTH STAFFORDSHIRE INSTITUTE OF IRON AND STEEL WORKS MANAGERS.**—The report presented at the annual meeting on March 29 was one on which the members may fairly be congratulated. The prosperity of the Institute continues. There are now 108 ordinary members, and the accounts show a sufficient balance—191. 19s.—in hand. For the ensuing year Mr. W. J. Hudson (Woodside Ironworks) was unanimously elected President, and Mr. R. Smith-Casson Vice-President, and Mr. William Yeomans, the hon. secretary, was re-elected, and Mr. Barnett treasurer. A committee of 13 was also elected. Mr. W. H. Howe and Mr. Bagshaw were elected members. The President (Mr. Moses Millard) then, on behalf of the Institute, presented Mr. Richard Edwards, a former hon. secretary and President, with a handsome timepiece. In doing this Mr. Millard spoke of the manner in which Mr. Edwards rescued the Institute from the lethargy into which it was sinking. Mr. Yeomans was presented with a silver watch, and his daughter, who had acted as his amanuensis, also received a silver watch. All these presents were suitably inscribed, and were tendered with kind words and good wishes. Mr. R. Edwards and Mr. Yeomans briefly responded. A vote of thanks was passed to the retiring President, on the motion of Mr. Hudson, the President elect. The company afterwards dined together. After the loyal toasts, Mr. Skinner proposed "The Institute," and said it was doing a vast amount of good in discussing all matters connected with the scientific manufacture of iron. He trusted that it would proceed on its good work until it included all, or nearly all, the managers in South Staffordshire. (Applause.) The President, in responding, said the Institute was 18 years old, but it was failing when Mr. Edwards took to the post of hon. secretary. Now it was increasing at such a rate that it had been necessary to pay the secretary to enable him to obtain assistance in carrying on the work. (Hear, hear.) The President could not congratulate the Institute on the prospects of the next year. With pig-iron offered in the market at less than 40s. per ton, with the blowing out of furnaces in Cleveland, and with rumours of reduction in wages, there did not seem much hope for good trade. Mr. Hudson then spoke in favour of increasing the height of the blast furnaces, so as to get better results. In conclusion he thanked the meeting for exalting him to the presidential chair.—Mr. Smith-Casson, responding to the toast of "The Vice-Chair," said the Institute had not, in his opinion, been brought sufficiently before the public. The members had within themselves a great deal of practical knowledge which could advance the interests of the iron and steel industries, not only of Staffordshire, but of England. Iron was dying hard, and there was plenty of room yet to enhance its usefulness; but when the time did come for South Staffordshire to transfer its attention to steel, he thought it could do its duty with that metal as well as it had done it with iron. (Applause.) It was to the interest of the employed as well as the employers that the railway rates controversy should be earnestly maintained, for it was impossible that wages should be satisfactory whilst the manufacturers were so burdened. The South Staffordshire manufacturers must never be content until a proper competition was established between the water and the railway carriers. The manner in which the railway companies had now met the Freighters' Protection Association was satisfactory, and the prospects looked decidedly brighter.



## Registration of New Companies.

The following joint-stock companies have been duly registered:—

**THE GLAMORGANSHIRE BANKING COMPANY (Limited).**—Capital 1,750,000*l.*, in shares of 30*l.* and 5*l.*. To acquire, take over, and carry on the business of a company bearing the same name established at Swansea. The subscribers are—L. L. Dillwyn, Swansea, 200; T. A. Marten, Swansea, 200; J. H. Rowland, Neath, 200; C. H. Bath, Swansea, 300; J. Cady, Swansea, 400; R. Voss, Bethnal Green, 200; J. C. Richardson, Swansea, 2000; J. Buse, Swansea, 200; R. J. Dickson, Swansea, 100; T. D. Griffiths, Swansea, 230.

**GORDON SPINNING COMPANY (Limited).**—Capital 60,000*l.*, in shares of 100*l.*. Carrying on at Oldham the business of cotton spinning and doubling, manufacturing cotton, silk, wool, flax, &c. The subscribers (who take one share each) are—J. Spencer, Oldham; J. J. Hall, Oldham; J. Kenworthy, Oldham; J. W. Cowper, Oldham; T. Norcliffe, Oldham; H. Stansfield, Didsbury; W. Lees, Oldham.

**SKINNER AND HOLFORD (Limited).**—Capital 100,000*l.*, in shares of 10*l.*. To acquire by purchase the Waleswood Collieries, situated in the parishes of Wales and Treeton, Yorkshire, and all works, buildings, locomotives, and other engines, machinery, tools, implements, plants, effects, &c., and the good-will of the business of coal masters, lately carried on by Messrs. Skinner and Holford, and to continue the said business in all branches. The subscribers (who take one share each) are—S. Skinner, Rotherham, colliery proprietor; J. Hall, Hyde, cotton spinner; J. A. Lingden, Alfreton, engineer; W. Gillatt, Norton Lees, no occupation; E. Eastwood, Tupton, railway wagon builder; W. D. Holford, Old Whittington, gent.; J. H. Ashton, M.E.

**GEORGE G. BUSSEY AND COMPANY (Limited).**—Capital 20,000*l.*, in shares of 5*l.*. To acquire and continue a business of general manufacturers and merchants at Rye-lane, Peckham, and in Melbourne. The subscribers are—G. G. Bussey, Rye-lane, 3000; W. E. Bussey, Rye-lane, 100; G. F. Bussey, Camberwell, 1; S. R. Bussey, Melbourne, 100; C. Eyre, Peckham, 100; H. C. Brown, Ealing, 110; J. Sangster, 31, Paternoster-row, 1.

**THE NORTH TOLIMA SILVER MINES (Limited).**—Capital 60,000*l.*, in shares of 1*l.*. To adopt and carry into effect an agreement made between C. O. Rogers of the one part, and S. A. Cobbett, as trustee for the company, of the other. To purchase or otherwise acquire, develop, and work lands, estates, mines, mining rights, mineral properties, grants and privileges, ores, minerals, and other properties situated in the United States of Colombia, South America, or elsewhere; for the purpose of carrying on all operations connected with mining, smelting, and reducing of ores and minerals, whether obtained from the mines belonging to the company or from any other source. The subscribers (who take one share each) are—A. G. Dickson, 10, Duke-street, major; J. Fletcher, 2, St. Helens-place, East India agent; H. T. Sankey, Canterbury, solicitor; C. O. Rogers, 10, Blomfield-street, merchant; S. A. Cobbett, 10, Blomfield-street, secretary; W. L. Dunn, Clapton, accountant; F. L. Marston, Fulham, clerk. The following gentlemen are to be the first directors—A. G. Dickson, J. Fletcher, H. T. Sankey, C. O. Rogers, and B. L. Barrow; qualification 200 shares.

**THE TUCUMAN ESTATES SUGAR PLANTATION AND FACTORIES COMPANY (Limited).**—Capital 600,000*l.*, in shares of 10*l.*. To acquire a certain property in the Argentine Republic for the purpose of carrying on a planting and sugar manufacturing business in all branches. The subscribers (who take 50 shares each) are—W. T. Wythes, Birmingham; J. Lloyd, 12, Colchester-road; C. A. P. Talbot, Watford; C. A. Messiter, Yeovil; H. Knight, 1, Royal Exchange Buildings; J. E. Blair, Worcester Park; A. C. Wilkins, Wimbledon.

**GRANVILLE MILL COMPANY (Limited).**—Capital 80,000*l.*, in shares of 100*l.*. To carry on at Oldham the business of cotton manufacturers and spinners in all branches. The subscribers (who take five shares each) are—J. Clegg, Oldham; A. Mills, Oldham; J. Harrop, Oldham; H. Lees, Oldham; A. J. Haworth, Oldham; W. Taylor, Oldham; S. Gartside, Oldham.

**UNITED MORTGAGE COMPANY (Limited).**—Capital 20,000*l.*, in shares of 10*l.*. To make advances upon property of any description, either real or personal. The subscribers are—C. L. Vaughn, Bridgend, 5; W. B. Randall, Bridgend, 10; J. M. Randall, Bridgend, 10; T. J. Hughes, Bridgend, 1; J. McLaughlan, Bridgend, 1; W. Randall, Bridgend, 10; G. B. Harris, Bridgend, 1.

**THE CENTRAL AFRICAN GOLD EXPLORING EXPEDITION (Limited).**—Capital 10,000*l.*, in shares of 1*l.*. To acquire by purchase or otherwise any lands, mines, minerals, and mining rights, or other property in Africa; also any concessions, rights, and interests in the same, and to carry on the business of miners and prospectors, and to get ores and minerals, reducing, or otherwise treating, or dealing with same. The subscribers are—M. E. Jeffries, 27, Palace Chambers, land agent, 1; J. M. Coward, 9, Bridge-street, secretary, 1; E. Beall, 46, Queen Victoria-street, solicitor, 5; H. S. Cooke, 46, Queen Victoria-street, secretary, 4; E. Wilde, 33, Tiverton-road, clerk, 1; A. Pearce, South Tottenham, accountant, 1; R. B. Tennent, 12, Walbrook, merchant, 1.

**THE ROCHDALE COTTON SPINNING COMPANY (Limited).**—Capital 100,000*l.*, in shares of 5*l.*. To erect a mill, weaving shed, or factory, and to carry on a business in connection therewith. The subscribers (who take one share each) are—J. Smith, Rochdale; S. Spencer, Rochdale; J. Mather, Rochdale; M. Ashworth, Rochdale; J. H. Allsopp, Rochdale; J. H. Stewart, Rochdale; J. Ashworth, Rochdale; S. Stoll, Rochdale; J. Taylor, Rochdale; J. Barlow, Rochdale; R. Taylor, Rochdale.

**THE SOUTHPORT GUARDIAN PRINTING AND PUBLISHING COMPANY (Limited).**—Capital 10,000*l.*, in shares of 1*l.*. The editing, printing, and publishing of a certain newspaper, and the carrying on of the business of printers and publishers, at Southport, or elsewhere. The subscribers (who take one share each) are—J. H. C. Powell, Waterloo; J. Sergeant, Southport; T. Harrison, Southport; R. Howarth, Southport; J. F. Roberts, Southport; C. F. Bosworth, Liverpool; J. Battelworth, Southport; J. Morris, Birkdale.

**THE DAGENHAM BRICK COMPANY (Limited).**—Capital 20,000*l.*, in shares of 10*l.*. The usual business of brickmaking, and manufacturers of fictile products, of tiles, drain pipes, &c. The subscribers (who take one share each) are—J. G. Fanshawe, 2, Halkin-street; S. W. Baston, Kilburn; E. Fanshawe, 2, Halkin-street; A. H. Bacon, Baldoak; J. W. Hewlett, 8, Brecknock Crescent; C. J. Erskine, 77, Warwick-road; C. Martin, West Kensington.

**THE GREAT GRIMSBY COAL, SALT, AND TRAINING COMPANY (Limited).**—Capital 60,000*l.*, in shares of 6*l.*. To acquire all or any part of the property of a company, registered in 1873, bearing the same name, and which is now in liquidation, and continuing the business of coal and salt merchants, engine fitters, shipbuilders, boat builders, net manufacturers, outfitters, butchers, &c. The subscribers are—J. Meadows, Cleethorpes, 100; J. Hawke, St. Andrew's-terrace, 100; H. Smethurst, Grimsby, 100; W. Moody, Cleethorpes, 100; H. Morris, New Cle, 50; J. Godley, Grimsby, 20; H. Mudd, Grimsby, 100.

**THE UNIVERSAL GLACIARUM AND ICE MANUFACTURING COMPANY (Limited).**—Capital 250,000*l.*, in shares of 1*l.*. To acquire, take over, and carry on the business of the Southport Glaciarium, and Ice Manufacturing Company (Limited). The subscribers (who take one share each) are—E. Holden, Shipley; J. Boyll, Shipley; T. H. Sykes, Shipley; G. Pilkington, Shipley; H. Blumberg, Shipley; G. H. Hyde, Shipley; W. E. Smith, Shipley.

**THE DUCHES SPINNING COMPANY (Limited).**—Capital 70,000*l.*, in shares of 5*l.*. To acquire land near Oldham, and erect thereon mills for the purpose of carrying on a cotton spinning, doubling, and manufacturing business. The subscribers (who take one share each) are—J. Milne, Shaw; J. Woltercroft, Shaw; J. Kempster, Shaw; J. Henthorn, Shaw; N. Hopwood, Shaw; R. E. Fitten, Shaw; J. Shaw, Shaw.

**THE LIVERPOOL STEAMSHIP TRUST AND AGENCY COMPANY (Limited).**—Capital 100,000*l.*, in shares of 10*l.*. The general business of insurance agents, shipowners and shiphusbands, agents for shipowners, merchants, &c. The subscribers (who take one share each) are—B. Tomlinson, 101, Leadenhall-street; G. Thomson, Newcastle-on-Tyne; J. Lornie, jun., Liverpool; R. Wakeham, Liverpool; J.

Tomlinson, Liverpool; G. J. S. Eastham, Liverpool; T. Reay, Liverpool.

**THE FLORIDA INVESTMENT AND AGENCY COMPANY (Limited).**—Capital 100,000*l.*, in shares of 10*l.*. To acquire, by purchase or otherwise lands and tenements in the State of Florida and other parts of the United States, and to carry on in connection therewith an agricultural, stock raising, and fruit cultivating, &c., business. The subscribers (who take one share each) are—R. W. Surtees, 72, Bishops-gate-street; J. Orlebar, 37, Walbrook; H. Wharton, 32, Weymouth-street; W. Dunn, Blackheath; A. Fell, 46, Queen Victoria-street; E. N. Fell, 198, Earl's Court-road; R. J. J. Shrimpton, Croydon.

**DANIEL OWEN AND COMPANY (Limited).**—Capital 74,000*l.*, in shares of 10*l.*. To acquire, print, and publish the Western Mail newspaper at Cardiff, South Wales. The subscribers (who take one share each) are—D. Owen, Corbridge; H. L. Carr, Cardiff; J. M. Maclean, Chiswick; H. M. Thomas, Cardiff; D. Owen, Corbridge; S. A. Owen, Corbridge; J. Holder, 40, Cheapside; F. Ruddock, Lewisham.

**OLDHAM AND DISTRICT FINANCIAL AND BUILDING COMPANY (Limited).**—Capital 25,000*l.*, in shares of 5*l.*. A combined financial and building society's business in all branches. The subscribers (who take one share each) are—W. H. Cooke, Oldham; M. Garfitt, Oldham; J. Cheetham, Oldham; E. Skin, Oldham; R. H. Cowell, Oldham; D. Rothwell, Oldham; W. Bowers, Oldham.

**THE EQUITABLE MUTUAL INVESTMENTS ASSOCIATION (Limited).**—Capital 5000*l.*, in shares of 1*l.*. The business of financial agents, coupon brokers, bill discounters, and all other financial business. The subscribers (who take one share each) are—C. Eve, Upper Norwood; E. E. Cooke, 11, Great Percy-street; C. R. Drake, Stamford Hill; C. F. N. Howard, Kentish Town; A. A. Rhoades, Croydon; A. W. W. Heyther, Gipsy Hill; A. E. Drake, 90, Kyverdale-road.

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## THE SOUTH YORKSHIRE COAL FIELD, AND ITS FUTURE.

In no mining district in the kingdom does there appear to be a brighter future in store than for South Yorkshire. Its inland position, and its distance from the metropolitan and other southern markets, has prevented it from making that progress which its extent and the value of its coal seams would under other circumstances have ensured for it. But there is now every promise of two most important outlets being secured for it, that must add vastly to its production, and render the opening out of new fields a necessity. The completion of the Hull and Barnsley Railway will permit vast quantities of its fine steam coal to reach the Humber, and thence to all parts of the world. It is now used by the steamers running from Hull, and a good deal is being exported, but this latter is comparatively trifling, the total last year having only been 602,530 tons, whilst in the same period there was sent to foreign ports from Cardiff 6,761,455 tons, and from Newcastle 4,559,233 tons, yet Hull claims to be the third of our shipping ports. One reason for this is, no doubt, the existing railway rate, while from the Barnsley district it is 3s. 10d. per ton—is only 2d. per ton less than from the Tyne to the Thames. By the new line it is expected that the rate from Barnsley to Hull will be 2s. to 2s. 3d. per ton, and this will lead to a vast tonnage of the "hards," in particular, being sent direct to Hull, probably from 40,000 to 50,000 tons a week on to the line from the collieries in South Yorkshire. The steam coal would also be placed in a position to compete on the Thames with that from other districts where the collieries are near to seaports. This is impossible at present, seeing that the railway rate from the district is 8s. 3d. per ton to the Metropolis, exclusive of 9d. per ton for truck hire, and 2d. for drops, making 9s. 2d. at the railway; but if the coal is to be put on to the Thames there is an additional charge of 2s. 6d. per ton for lighterage. This is prohibitive, with the rate from Newcastle at only about 5s. 1d. per ton, including City dues. A low rate to the Humber by the Hull and Barnsley Railway, and a charge of about 2s. 6d. per ton by sea to the Thames would put the South Yorkshire "hards" in a position to compete with any of the seaborne coal that reaches London. This will give some idea of what the Hull and Barnsley Railway is likely to accomplish for the South Yorkshire coal field. In addition great things are expected from the Manchester and Liverpool Ship Canal.

The leading counsel for the promoters, Mr. Kember, said in his opening address, that at Partington, where the Cheshire Lines crossed the canal, it was proposed to make a basin and to form branch railways to the Cheshire Lines Railway and to the neighbouring coal fields. The Cheshire Lines Railway was worked by the Midland, Great Northern, and Manchester, Sheffield, and Lincolnshire Railways jointly, which ran into the South Yorkshire coal field, and if the canal were made Partington would be the nearest port to South Yorkshire. Mr. Hartley, the manager of the Dodworth Silcock Colliery in his evidence before the committee a few days since, said the establishment of the ship canal at Partington would be of immense advantage to the South Yorkshire coal field, and he thought the carriage of coal to Partington would not be more than 2s. 6d. per ton. The position that the South Yorkshire coal field is likely to enjoy at no distant date will be gleaned from the above brief notice of passing events.

## INTERNATIONAL MINING EXHIBITION.

When the organisation of an International Mining Exhibition was first proposed, we remarked that such an enterprise could only be successful if carried out under the control of well-known English managers, in whom the public would have confidence; but, at the same time, we gave full credit to Mr. Thomas Cornish and to Mr. A. Zeehandelaar. The proposal was about simultaneous from these gentlemen, and acknowledged the immense benefit that would result to mining enterprise throughout the world if the project could be successfully developed. Mr. Zeehandelaar has since completed his preliminary programme, and, although it must be understood that it is subject to revision—perhaps of a very extensive kind—it will suffice to give an outline of what is intended. Mines, miners, and minerals, it is remarked, are subjects of which the general public, comparatively speaking, know but very little. The mineral kingdom (the third grand division of natural objects) embraces all inorganic substances whatever, but everything connected with the great mining industry is almost entirely concealed from the view and knowledge of those not directly engaged in mining.

An International Mining Exhibition (as proposed by him through the columns of the London papers) of everything appertaining to this great and growing industry, under English patronage, and those directly identified with mining labour and capital, at a day, place, and for a period to be named hereafter, would not only in Mr. Zeehandelaar's opinion, be of great interest, but also of benefit to the public at large. Such an Exhibition, the first one ever held here, to be conducted for the common good, without any speculative motives, is bound, he thinks, to prove of great value to the producer and investor, and to better the condition of the miner, as it will bring mining to a more legitimate basis, and tend to settle labour questions. We know little, he continues, of the life and dangers of the collier and the deliver for iron, precious metals, and diamonds, they do not meet us at every turn, like the tradesman or mechanic, neither have many persons the least idea how a mine looks, what constitutes ore, how that ore is taken out, milled, and reduced to ballion, or undergoing one of the many other processes of reduction. It is in carrying out such illustrations and objects as these, that great exhibitions discharge their most distinctive and beneficial functions. They bring together, in a visible and striking form, those features of our industrial and social life, which otherwise by chance or necessity escape general observation.

Such a collection, as that contemplated to be brought together by an International Mining Exhibition in the great financial centre of the world would also, it is urged, be of peculiar interest to capitalists in placing at their disposal, ocular and statistical information, which

they could not otherwise obtain, concerning the developed and undeveloped mineral resources of England, her colonies, and all foreign countries. The wonderful influence exercised by the great International Exhibition of 1851 has given birth to exhibitions of all industries and trades, and last, but not least, the International Fisheries Exhibition, which like all vigorous and well-conceived ideas, has been an immense success, and has given an impetus to the fishing industries all over the world. What the Fisheries Exhibition has done for fishing and fishermen in spreading a world-wide knowledge of all the latest inventions applicable to the craft, the safe guarding and preservation of lives, the improvement of life and labour status, an international mining exhibition in its scope may do for the miner and the development of an industry as yet little known or understood. It is an undertaking, Mr. Zeehandelaar contends, in which all nations can cordially co-operate, because the results affect all mankind. Promises of support have already been received by him from America and other countries, and there is every reason to believe that the undertaking, if under powerful English patronage, will meet with unparalleled success, and prove a benefit to science, labour, and capital.

Roughly and very incompletely mentioned, the Exhibition should, it is considered, embrace under proper classification, mines, minerals, commercial and economic processes and appliances, economic condition of miners, lectures, conferences, &c., everything appertaining to deep, hydraulic, and other mining—specimens of ores, coal, stone, rock, clays, marbles, acids, salts, specimens of metals, mineral oils, mineral waters, and minerals as medicines. Hence the Exhibition would include:—I. Models of mills, ore-houses, engine-houses, ovens, machinery, smelters, &c. Maps and plans of mining and colliery districts. Topographical description of mineral-bearing countries. Records of gold washing. Coal waste as artificial fuel for mines and mills.—II. Machinery and appliances employed in mining, engines, pumps, boilers, trucks, safety-lamps, cages, cables, brakes, &c. Machine and other tools. Modes of ventilation, drainage, &c. Utilisation and drainage of water in mines. Apparatus for cooling, lighting, and heating. Cheap modes of reducing, crushing, cleaning, smelting, and drilling. General treatment and uses of precious metals. Processes for dressing ore. Process for separating bullion. Safety appliances. Working of low grade ores. Electricity in mines. Systematic working of mines. Apparel and personal equipment. Models and plans of dwellings. Benefit societies and insurances. Regulations for the preservation of life. Wages. Electricity applied to ores, minerals, and bullion; and, III. Material and appliances for secondary, superior, and applied instruction, and for scientific teaching. Scientific instruments used in mining. Economical working of ores. Value of metal in crude and pure state. Analysis of metals. Commercial and economic value of ores and metals. Labour statistics, surveys, statistics on mining assaying. Literature on mining and metallurgy. Essays.

Not less interesting than the Exhibition itself will be the conferences and lectures on geology and mineralogy, which, with the conferences on labour and labour strikes and the like, ought to make the whole scheme sufficiently attractive to ensure success.

## MINERAL RESOURCES OF NOVA SCOTIA.

We have been favoured by the Government Inspector of Mines for the Province—Mr. EDWIN GILPIN, jun., M.A., F.G.S.—with his annual report to the Commissioner of Public Works which contains the following summary showing the mineral production of Nova Scotia during the year 1883 compared with that of the previous year:—

	1882.	1883.
Gold .....	14,107 .....	15,446
Iron ore .....	42,135 .....	52,410
Manganese ore .....	205 .....	150
Copper ore .....	— .....	60
Coal raised .....	1,365,811 .....	1,422,553
Gypsum* .....	133,426 .....	144,668
Building stone* .....	4,357 .....	181
Coke made .....	26,731 .....	44,189
Grindstones, &c.* .....	2,450 .....	155
Limestone .....	16,584 .....	26,477

The total sales of COAL for the year 1883 amounted to 1,297,523 tons, against 1,250,179 tons in 1882, being an increase of 47,344 tons. The most noticeable points in the coal trade are:—The home sales were 471,327 tons, compared with 458,952 tons during the preceding year. The coal sent to the Province of Quebec amounted to 410,605 tons, against 383,031 tons in 1882, an increase of 27,574 tons. The sales to New Brunswick show an increase of 14,123 tons. The sales to Newfoundland decreased from 79,732 tons in 1882, to 61,678 tons during the past year. The sales to Prince Edward Island show a decrease of 2000 tons. The sales to the United States were 102,755 tons, being an increase of 3453 tons over the sales of the previous year. The amount of coal sent to the West Indies increased from 22,386 tons in the year 1882 to 31,860 tons during the year 1883. The sales to other points present no features of interest.

The increase in the yield of GOLD during the past year, although not as large as during the year before, is still of a satisfactory character. The total yield of gold for the year 1883 was 15,446 ozs. 9 dwts. 23 grs., being, with the exception of the year 1877, the largest return since the year 1871, when a production of 19,227 ozs. was recorded. There were 25,954 tons of quartz, &c., crushed, which gave an average yield of 10 dwts. 21 grs. per ton crushed. This is the lowest yield per ton since the year 1869. As it is understood that, generally speaking, the year's operations have proved satisfactory from a financial point of view, it would appear that increased attention has been given to economy in mining and milling. The lowest yield per ton was in the Sherbrooke district, where 8470 tons yielded 3356 ozs. 18 dwts., an average of 7 dwts. 22 grs. A considerable portion of this was from low grade ores, which ran from 4 to 6 dwts. per ton.

The experiments on low grade ores, as carried out at Mount Uniacke and Sherbrooke, show that with plant of the proper extent and with proper business economy in mining management and milling this grade of material can be treated with satisfactory results. The richest returns during the past year were made by the districts of Stormont and Chetcook. The former district is worked by the Gallagher Gold Mining Company, which extracted 1917 ozs. from 551 tons of quartz. The Chetcook district, where the Oxford Gold Mining Company are at present almost the only operators, returned 2494 ozs. 5 dwts. from 1475 tons of quartz, an average yield of 1 oz. 13 dwts. and 10 grs. The returns of unproclaimed and other districts were not as large as usual last year owing to the proclamation of the district of Darr's Hill (Salmon River) which has hitherto figured under this head. The total number of days' labour was 97,703. This probably represents fairly the work performed in connection with mining operations, and is a little less than last year.

For COPPER the Coxheath Copper Mining Company did a great deal of work during the past summer at their mine near Sydney, Cape Breton. Their levels were extended, and a good deal of ore stopped out. A few tons of this were handpicked and sent away for testing. Experiments were made on the low grade ores, and it is stated that preparations are being made for the erection of a large concentration plant in the spring. Some of the copper was found to carry 60 ozs. of silver to the ton. At Margareville, in Annapolis County, some work was done in the vicinity of the old mine, opened on a vein carrying native copper, &c., in the trap. Discoveries of copper were reported from Pleasant Valley, Yarmouth County, Pomquet Forks, Antigonish County, and Scotsburn, River John, and Malagash, in Pictou and Colchester Counties.

In connection with IRON, the operations of the Steel Company of Canada were carried on vigorously during the year, and 52,410 tons of ore taken out, and 7672 tons of ankerite quarried for a flux. Some prospecting was done by Mr. Jas. McKay, Battery Hill, Pictou County, on veins of specular ore. The thickest vein opened was said to be 7 ft. wide, and of good quality. In the Indian reserve, near St. Peters, Cape Breton, Mr. Joseph Matheson reported finding several lodges of specular ore.

With regard to LEAD, SILVER, &c., some exploration was made by

\* Quantities shipped. Returns not completed. Amounts used in Nova Scotia unknown.



**THE LAW OF MINES, QUARRIES, AND MINERALS.** By  
R. P. MACSWINNEY, M.A., Barrister-at-Law. Lord BRAMWELL in the  
case of *Love v. Bell*, says:—"This is well put, indeed the subject generally and  
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Cable Address: "Delmar, San Francisco."—Branch Office: 61, Broadway, New York.  
References: Messrs. LAZARD BROTHERS and Co., 60, Old Broad-street, London.  
ALEX. KELLY, Esq., 14, Great Winchester-street, London; and numerous others.

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Also, BOILERS, and several other SMALL ENGINES, LOCOMOTIVE, MACHINERY, LATHES, PLANING and DRILLING MACHINES, TURNING and FITTING TOOLS, several large and small SAW BENCHES, THREE HUNDRED AND FORTY 5 and 8 ton WAGONS, NINETEEN RIVER FLATS (rigged), and about 2500 tons of good CANNEL, &c., &c.  
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**MR. W. T. DAVEY**, Auctioneer, Redruth, has been favoured with instructions TO SELL, BY PUBLIC AUCTION, at Tabb's Hotel, Redruth, on TUESDAY, April 8th, 1884, at 5.30 for 6 o'clock in the evening precisely (free of commission), under such conditions as will then and there be produced and read, the

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With the MACHINERY and MATERIALS, and the LEASES under which it is worked, as a going concern, in One Lot. The PLANT thereon comprises:—  
ONE good 50 inch cylinder PUMPING ENGINE, with first piece of rod and caps, and TWO BOILERS, about 10 tons each, and fittings; balance and angle bolts, shears, and shaft tackle.  
ONE 35 inch double acting ENGINE, with fly wheel, crank, &c.  
ONE excellent 11 ton BOILER.  
ONE 20 inch WINDING ENGINE, cage, fly wheel, &c.; and 1 8 ton BOILER and fittings.

Capstans, &c.; iron bob; dry tube.  
Four stamps axles, frames, horses, lifters, &c.  
Boiler tubes, plates, &c. (about 16 tons), sundry pulleys, &c.  
Powerful winch, lifting jack, three shaft tackles, &c.  
100 fathoms 11 inch rods and plates.  
Two 11 inch plunger poles, two 9 inch ditto.  
About 80 fathoms of 14 inch pitwork, complete.

Iron rods, biddle gear, railroad iron, whim rope, large beam, scales, and weights, smiths' and miners' tools in variety, wood sheds, laundries, new and old iron, new and useful timber, and a variety of articles in general use in mines.  
The above plant is of good description, and in thorough working order.  
The mine is situated near the town of St. Agnes, and adjoining West Wheal Kitty, one of the best dividend-paying mines in Cornwall.

This mining property is in a great tin-bearing district, and has yielded immense quantities of ore, and formerly paid large profits to the shareholders. Considering that the 80 fathom level is the deepest point, the water charges light, and the little work done at this point, it is very probable by sinking a little deeper, together with a moderate outlay, Penhalls would prove a great success.

To view, apply to the Manager, Captain S. BENNETTS, on the Mine; and for further particulars to Messrs. PIRK and SON (the Purveyors), Camborne; or at the offices of the Auctioneer, 4, Station Hill, Redruth.

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**MR. A. BERRYMAN** has been instructed to OFFER FOR SALE, BY AUCTION, on the above Mine, on WEDNESDAY, the 30th April, 1884, at 2 P.M., all the interest of the Adventurers in the extensive Mine Sett of Tregembo, comprising about 60 acres, granted in 1830 for 21 years at 1-24th dues, merging (when under) in a minimum rent of £50 per annum; together with the almost new and excellent

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About 93 fathoms iron staved ladders.  
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" 75 " iron rails, one iron wagon.  
" 50 " 17 inch laundries, with stands.  
" 200 " 9 inch laundries, from river to engine-shaft.  
" 45 " wire rope.  
" 18 " 2 inch bucket rods, 100 fathoms of wood air pipes.  
" 16 " 1 1/2 inch bucket rods.  
" 12 " 1 1/2 "

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Two pairs 7 inch strapping plates, 14 feet long, staples and glands.  
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For further information and particulars, apply on the Mine; or by post to Capt. E. CROGWIN, Relubus, near Marazion, Cornwall; or the Auctioneer, 28, Clarence-street, Penance.—Dated 2nd April, 1884.

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**TO BE LET**, these OLD-ESTABLISHED and COMPACT WORKS, situate on the New Dock of Neath Harbour, with Quayside accommodation, and within a few yards of the Tennant Canal, leading to Swansea Dock, and also of a station and siding on the Great Western Railway. An ample supply of good Bituminous or Steam Coal can be guaranteed.  
The owners are prepared to let these eligible premises for any manufacturing purposes that may be agreed upon.  
For further information, apply to DANIEL REES, Esq., Mining Engineer, Aberdare; or Messrs. WARREN, Solicitors, 99, Great Russell-street, London.

**FOR SALE, CONDENSING BEAM ENGINE**, 7 feet stroke, 42 inch diameter of cylinder, fly wheel 28 feet diameter, spur wheel 17 feet 3 1/2 pitch, 11 segments, cast iron shaft 14 inch diameter, 21 feet beam. All in first-rate condition; can be seen working up to the 10th April.  
For full particulars and where to be seen, address "Box 27," Post Office, Bury, Lancashire.

**FOR SALE, at BRENDON HILLS MINES:—**  
ONE 28 inch cylinder PUMPING and WINDING ENGINE, stroke 9 feet, with fly wheel, winding gear attached, with one 12 ton boiler.  
Also ONE 25 inch cylinder PUMPING and WINDING ENGINE, stroke 9 feet by 7, with fly wheel, winding gear attached, with one 10 ton boiler fitted with Galloway tubes.  
Any further information may be obtained from Capt. HENRY SKELVIS, Brendon Hills Mines, Washford, Taunton.—Dated March 12, 1884.

**THE CANADA PACIFIC IRON AND STEEL RAIL COMPANY.**

The Subscriber is desirous of opening communication with some party in England for the purpose of organising the above company.  
One thousand acres of red hematite ore not far from the line of the C.P.R.  
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ONE 50 inch and ONE 40 inch PUMPING ENGINES, with BOILERS and FITTINGS.  
ONE 22 inch ROTARY ENGINE.  
ONE 12 1/2 inch HORIZONTAL ENGINE, with CAPSTAN and HAULING MACHINE attached.  
All the above Engines are in first-class condition.  
Several WATER WHEELS, from 20 to 60 feet diameter. STAMPS' AXLES and a large quantity of SECONDHAND MINING MATERIALS.  
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J. AND H. PEARCE, TAVY IRONWORKS, TAVISTOCK.

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DISTRICT UNDER THE CHARGE OF HENRY HALL, Esq.,  
H.M. INSPECTOR OF MINES.

PERSONS desirous of being EXAMINED in this District for MANAGERS' CERTIFICATES OF COMPETENCY, under the above-named Act, should at once COMMUNICATE with the Secretary to the Board of the above-mentioned District at the following address:—  
MARKELL W. PEACE, 18, King-street, Wigan.  
By order of the Board,  
MARKELL W. PEACE, Secretary.

N.B.—Persons who do not reside within the District are equally eligible for examination with those who do.

**PIT SINKING, WINDING COAL, PUMPING, &c.**

**PORTABLE STEAM ENGINE FOR SALE**, with two 9 1/2 inch cylinders, and link motion reversing gear also gear to wind and pump.

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A 6 ft. pan MORTAR MILL, VERTICAL ENGINE, and BOILER combined, on carriage and travelling wheels.

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**THE VENTNOR GAS AND WATER COMPANY** have FOR SALE ONE OF BLAKE'S PATENT STEAM PUMPS. Size, steam cylinder 10 inch, water cylinder 6 inch, stroke 18 inch, with gun metal valves, air vessel, &c., &c., in thorough good working order.

Further particulars may be obtained by application to J. S. INESON, Engineer and Secretary, Gas and Water Offices, Ventnor, Isle of Wight.—March 25, 1884.

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The situation of this property is in one of the best positions in Monmouthshire, within 13 miles of Newport, the port of shipment, and commands a large area of minerals, both the Bituminous and the Steam Coal Measures. The colliery is now in full work on the House Coal Measures.

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**ENGINES, BOILERS, &c., FOR SALE.—**  
FIRST-CLASS 50-inch cylinder PUMPING ENGINE  
ditto 24-inch " ROTARY ENGINE

CALCINER.  
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32,200 SHARES.

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DIVIDEND distributed for each Share, 20 francs.  
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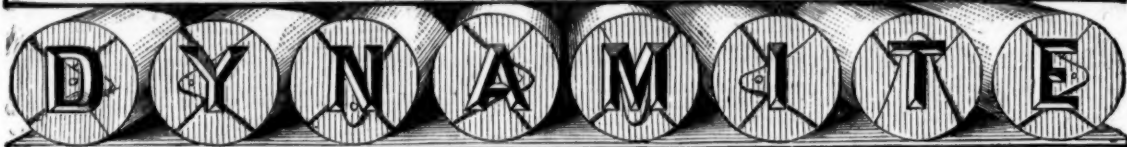
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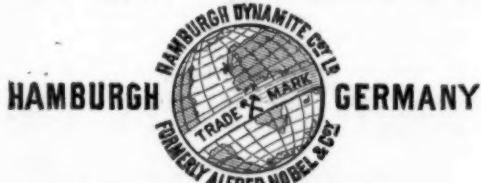
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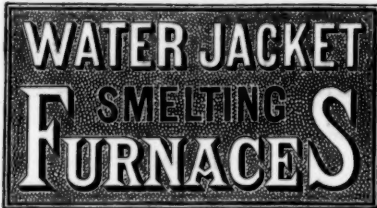
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These Smelters are shipped in a complete state, requiring no  
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Complete smelting plants made to order, with all the improve-  
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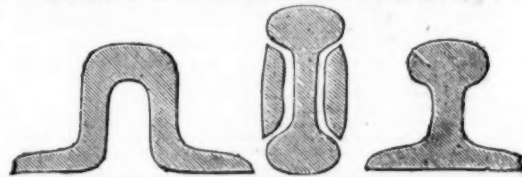
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6000	North Penstruthal, s. c. Gwennap...	3	4	0
2536	North Treaskerby, c. St. Agnes	1	0	0
8000	Northorn,* s. Durham	8	17	10
40000	Okel Tor,* s. c. Calstock	1	0	0
80000	Old Shepherds s. i. Cornwall	1	0	0
60000	Owen Ven & Tregur,* s. c. Marazion	1	0	0
45000	Parya Corporation,* c. Anglessea	1	0	0
7500	Pateley Bridge, s. i. Yorkshire	1	0	0
6000	Pedin-andrea, s. i. Redruth	4	7	0
20000	Pennant, s. i. bar. North Wales	5	0	0
20000	Pengarron, s. i. Gwent, Glam.	1	0	0
15000	Perr-y-Orsed,* s. i. Flintshire	1	0	0
15000	Perran Consols,* s. i.	1	0	0
12000	Perran Pen St. Alfred, c.	0	2	8
10000	Pioborro, s. i. St. Agnes	0	2	0
6000	Polebroe, s. i. Crowan	0	16	0
4518	Port Isaac, s. i. Cornwall	0	12	0
10000	Port Nigel Syn.* s. i. (4000 p. 10 p. c.)	1	0	0
18000	Pr. Patrick,* s. i. (als. 12000 pf. 10 p. c.)	1	0	0
12000	Prince of Wales, s. c.	1	6	0
36000	Russell United,* c. Tavistock	0	15	8
30000	Silver Hill,* s. i. Callington	1	0	0
50000	Sinclair,* s. i. Whitford	1	0	0
40000	Sortridge,* c. Herebridge	1	0	0
50300	South Canadian,* c. St. Olave	1	0	0
6000	South Carbis, s. c. Redruth	0	10	0
42000	So. Devon Unit,* c. Buckfastleigh	1	0	0
5000	South Dolcoath,* c. i. Illogan	0	19	0
40000	South Kelly,* s. i. Gwent	0	10	0
8269	South Penstruthal,* c. Gwent	3	3	0
30000	So. Phoenix & Canadian,* c. i. Llaninhua	1	0	0
6000	South Tolaras, s. c. Camborne	5	11	6
2043	South Wheal Crofty, c. Illogan	5	19	6
8036	South Wheal Frances, s. i. Illogan	9	19	4
40000	St. Agnes,* s. i. Beaulieu	1	0	0
110000	Tanker Hill,* s. i. Consols	1	0	0
12000	Treabatha Lomane, s. i. Northill	0	6	2
6000	Tregotha, s. i. Cornwall	0	4	0

...savean,* t, c, Gwennap.....	1	0	0...
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80000	Travaran United,*	£, Cornwall	1	0	0	—	—	—	—
20000	Prevanenau, £, St. Agnes		0	0	0	—	—	—	—
1000	Vaughan,*	£, Cardiganshire	10	0	0	—	—	—	—
50000	Wearside,*	£, Northumberland	1	2	6	—	—	—	—
12000	West Aleslton, £, Carnarvon		1	2	6	—	—	—	—
12000	West Cardigan,*	£, St. Cleer	0	0	3	—	—	—	—
30000	West Cornwall,*	£, Cornwall	1	0	0	—	—	—	—
3000	W. Craven Moor,*	£, Pateley Bridge*	10	0	0	—	—	—	—
12000	West Crebor, £, Tavistock		0	11	8	—	—	—	—
10240	West Devon Consols, £, Calstock		1	2	0	—	—	—	—
10000	West Goss, £, St. Agnes		1	3	6	—	—	—	—
2000	West Goss, £, St. Agnes		0	0	0	—	—	—	—
50000	West Lisburne,*	£, Cardigan	0	0	0	—	—	—	—
3000	West Mary Ann, £, Menheniot		1	18	0	—	—	—	—
30000	Westminster Consols,*	£, Flintshire	1	0	0	—	—	—	—
20000	W. Pateley Bridge, £, Yorkshire		1	0	0	—	—	—	—
12000	West Phoenix, £, Llaninhorne		1	5	0	—	—	—	—
6000	West Portland, £, St. Agnes		0	11	0	—	—	—	—
2000	West Poldice, St. Day		0	10	6	—	—	—	—
2048	West Hayes Frances, £, Illogan		39	18	3	—	—	—	—
3000	West Wheal Peewer, £, Redruth		4	0	6	—	—	—	—
2400	West Wheal Seton, £, Camborne		19	10	0	—	—	—	—
6144	Wheal Bassett, £, Illogan		8	19	6	—	—	—	—
3000	Wheal Boys, £, Redruth		1	3	6	—	—	—	—
50000	Wheal Charlie,*	£, St. Agnes	1	0	0	—	—	—	—
1000	Wheal Coates,*	£, St. Agnes	0	10	6	—	—	—	—
2585	W. Gornf., & No. Tres,*	£, G. Gwennae	2	2	0	—	—	—	—
1000	Wheal Britannia, £, G. Gwennae		1	0	0	—	—	—	—
50000	Wheal Elizabeth,*	£, Cornwall	1	0	0	—	—	—	—
12238	Wheal Jane, £, Knaol		3	3	0	—	—	—	—
12000	Wheal Jewell, £, St. Hilary		1	0	6	—	—	—	—
25000	Wheal Bow and Redruth,*	£, Llan.	2	0	0	—	—	—	—
10000	Wheal Lusk,*	£, Cailling	0	10	6	—	—	—	—
2000	Wheal Owies, £, St. Just		7	3	0	—	—	—	—
30000	Wh. Silver & Lanteglos,*	£, G. Camelfid.	1	0	0	—	—	—	—
6000	Wheal Sisters, £, Lelant		4	2	6	—	—	—	—
4036	Wheal Uny, £, Redruth		19	8	6	—	—	—	—
12565	Wye Valley, £, Montgomery*		1	0	0	—	—	—	—
60000	Ysland Consols,*	£, Devonshire	0	12	6	—	—	—	—
4000	Ystwith,*	£, Cardigan	1	0	0	—	—	—	—

*bl.*, blade; *c.*, copper; *g.*, gold; *l.*, lead; *s.*, silver; *st.*, waste  
*st.*, silver-lead; *t.*, tin; *z.*, zinc; *i.*, iron; *a.*, arsenic; *d.*, diamond.  
 Limited Liability Companies; \* quoted on the Stock Exchange.

bl, blende; c, copper; g, gold; l, lead; s, silver; sl, slate  
sl, silver-lead; t, tin; z, zinc; i, iron; a, arsenic; d, diamond.  
Limited Liability Companies; † quoted on the Stock Exchange  
I have paid dividends.

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Issue, Shares.		Pd.	Clse p.
5000..	20..Bahia [L] .....	all.	2 3/4
100000..	5..Bombay [L] .....	all.	6 1/4
27000..	5..Ditto, New [L] .....	4.	4 1/2
29700..	20..Bristol & Gloucester .....	all.	10 1/2
14000..	20..Bristol & Gloucester Consolidated .....	100.	130 1/2
50000..	5..Buckingham Palace .....	all.	31 1/2
200000..	5..Commercial Union .....	100.	215 1/2
400000..	20..Continental Union [L] Orig. .....	all.	215 3/4
800000..	20..Do. do. New, 1893, 1872 .....	all.	215 3/4
100000..	20..Do. do. 7 per cent. Preference .....	all.	20 1/2
23400..	10..European [L] .....	all.	19 1/2
50000..	5..Gaslight and Coke, A. Ord. ....	100.	199 1/2
50000..	5..Do. 4 per cent. Deb. Stock .....	100.	104 1/2
1000000..	10..Hong Kong and China .....	all.	17 1/2
800000..	5..Imperial Continental .....	all.	193 1/2
120000..	5..Malta & Mediterranean .....	all.	4 1/2
000000..	5..Metrop. of Melbourne p.c. Deb. ....	all.	10 1/2
250000..	20..Monte Video [L] .....	all.	105 1/2
100000..	5..Ottoman [L] .....	all.	4 1/2
300000..	5..Oriental [L] .....	all.	7 1/2

## TRAMWAYS.

TRAMWAYS.				
Issue.	Shares.		Pd.	Clas. No.
40000...	5...	Ayulo-Argentine [L] .....	all	5 1/2
10000...	10	Barcelona [L] .....	all	10 1/2
7140...	10	Belfast Street Tramways .....	all	7 1/2
3050...	10	Birkenhead, Ordinary .....	all	3 1/2
3000...	10	Ditto, 6 per cent. Preference, all	all	3 1/2
9200...	10	Bristol [L] .....	10	6 1/2
25000...	10	Bordeaux Tram & Omnibus [L], all	all	4 1/2
5000...	10	Calcutta [L] .....	all	5 1/2
3200...	10	Chester [L] .....	all	3 1/2
44000...	10	Dublin .....	all	4 1/2
14600...	10	Edinburgh Street Tramways .....	all	14 1/2
35000...	10	Glasgow Tramway & Omnl. [L], 9	all	35 1/2
10000...	10	Hughes Loco. and Tram. works, all	all	10 1/2
7500...	10	Hull Street Tramways .....	all	7 1/2
2000...	10	Imperial [L] .....	all	2 1/2
3400...	10	Liverpool Tram & Om. [L], all	all	34 1/2
28000...	10	London [L] .....	all	28 1/2
18000...	10	London Street Tramways .....	all	18 1/2
60000...	10	North Metropolitan .....	all	60 1/2
8000...	10	Nottingham and District [L] ..	all	8 1/2
15047...	10	Provincial [L] .....	all	15 1/2
6000...	10	Sheffield .....	all	6 1/2
6000...	10	Southampton .....	all	6 1/2
6000...	10	Sunderland .....	all	6 1/2
13000...	10	Swansea [L] .....	all	13 1/2
12000...	10	Tramways of France [L] .....	all	12 1/2

## TELEGRAPH COMPANIES

TELEGRAPH COMPANIES.			
States.		Pd.	Clas. pr. \$
Stk.	Anglo-American .....	100	37 1/2
10	Brazilian Submarine .....	10	0 1/2
10	Cuba .....	10	0 1/2
10	Direct Spanish .....	10	0 1/2
20	Direct United States Cable ...	20	0 1/2
10	Eastern .....	10	0 1/2
10	East. Exten. Austr. and China ..	10	0 1/2
10	German Union .....	10	0 1/2
10	Great Northern of Copenhagen ..	10	0 1/2
25	Indo-European .....	25	0 1/2
10	London Platino Brazilian .....	10	0 1/2

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